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RESTRICTIVE TRADE
PRACTICES COMMISSION



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The Ophthalmic
Products Industry
in Canada



Consumer and
Corporate Affairs
Canada

Consommation
et Corporations
Canada

RESTRICTIVE TRADE PRACTICES COMMISSION

THE
OPHTHALMIC
PRODUCTS
INDUSTRY
IN
CANADA

Report in the Matter of an Inquiry under Section 47 of
the Combines Investigation Act in connection with the
Production, Supply, Distribution and Sale of Ophthalmic
Goods in Canada

Ottawa

1978

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RESTRICTIVE TRADE PRACTICES COMMISSION

Acting Chairman L.-A. Couture, Q.C.

Member R. S. MacLellan, Q.C.

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Restrictive Trade
Practices Commission

Commission sur les pratiques
restrictives du commerce

December 29, 1978.

The Honourable Warren Allmand, P.C., M.P.,
Minister of Consumer and Corporate Affairs,
House of Commons,
Ottawa, Ontario
K1A 0A6

Dear Sir:

I have the honour to transmit to you the French and English texts of a report by the Restrictive Trade Practices Commission entitled "The Ophthalmic Products Industry in Canada".

This report follows from an inquiry carried out under section 47 of the Combines Investigation Act relating to the production, supply, distribution and sale of ophthalmic goods in Canada.

Yours very truly,

L.-A. Couture,
Acting Chairman.

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CHAPTER I

THE PRODUCTION AND DISTRIBUTION OF OPHTHALMIC PRODUCTS

Ophthalmic Products

For the purpose of this inquiry ophthalmic products consist of contact lenses, conventional glass and plastic lenses, and the frames and mountings used to hold lenses. Ordinary experience indicates that considerations of appearance determine the form and style of ophthalmic products to varying degrees even though the basic purpose they serve is the satisfaction of a health need. The need for vision correction is sufficiently basic that, in Canada at any rate, the price of ophthalmic products and the level of household income are not likely to affect greatly the extent to which this need is met. Although people who need glasses generally obtain them, either out of their own family income or under some kind of governmental programme, price and income probably do have a significant effect on the level of expenditures on ophthalmic products, for appearance and convenience are matters that affect the kind and number of units of eye-wear purchased. Thus many individuals own several pairs of eyeglasses which may serve to ensure against loss or breakage, co-ordinate with different items of dress, or facilitate particular activities such as sports.

The dual nature of ophthalmic products as health-care appliances and as ordinary items of commerce was much in evidence during the inquiry. One of the elements present is the cosmetic aspect, another is fashion. Cosmetic considerations are certainly an important factor behind the growing demand for contact lenses, and the bedazzling variety of shapes, colours and sizes of frame is evidence of the importance attached to having spectacles complement one's physical appearance or dress. Lenses as well are affected by style through the impact of frames upon lens size and shape. Larger lenses have been required to accommodate the

new frame styles; and, since glass lenses are heavier than plastic ones, the use of larger lenses has contributed to the growing popularity of plastic lenses. The demand for variable-focus lenses (lenses which gradually change power over their surface and can be used instead of bifocal or trifocal lenses) also would appear to be affected by a concern for appearance or self-image. Certainly some of the advertising of such lenses lays stress on the absence of breaks so apparent in bifocal or trifocal lenses that it is obvious the wearer requires them.

In essence ophthalmic products are health-care items. The usual first step in buying a pair of spectacles is a visit to an ophthalmologist (a medical specialist in the treatment of diseases of the eye) or an optometrist (a professional with training in measuring refractive error and assessing muscular and visual conditions and prescribing for their correction) for an eye examination. These professionals, when it is warranted, write prescriptions. If written by an ophthalmologist, a prescription is likely to be filled by a dispensing optician (a salesperson with on-the-job and/or formal training in fitting spectacles). If written by an optometrist, the prescription is likely to be filled by the optometrist himself, for the majority of optometrists appear to dispense. How well and safely the prescription is filled depends on the quality of the materials used, the accuracy with which the spectacles are fabricated and the skill with which the dispenser fits the patient.

The fact that ophthalmic products are medical devices has a considerable impact on the institutional and resulting economic environment in which they are sold to consumers. There is legislation governing optometry in all provinces. Provincial statutes govern dispensing opticians save in Newfoundland and British Columbia. The provincial statutes combined with by-laws and regulations restricting the conduct of dispensing opticians and optometrists affect the sale of spectacles and contact lenses. In most jurisdictions optometrists are restricted with regard to advertising, operating out of commercial establishments such as department stores, or working for companies that produce or sell spectacles. Opticians are generally less restricted, the most prevalent inhibition on their marketing activities being the ban or control of price advertising.

Stages of Production and Distribution

The levels of production and distribution of ophthalmic products correspond only roughly to the manufacturing, wholesaling and retailing division of functions found in other industries.

Let us first consider conventional plastic or glass lenses. When sold by an optician or an optometrist their essential property is that they embody a client's prescription. For any given lens material and thickness the optical power of a lens is determined by its curvature on both sides. Manufacturers make use of these facts to mass-produce finished lenses in the lower powers for which most single-vision prescriptions are written. For prescriptions in the higher powers and for most multifocal prescriptions manufacturers produce semi-finished lenses, i.e., lenses ground on only one side. Surfacing laboratories acquire these lenses and grind them to the individual prescriptions submitted to them by dispensers. The lenses are then edged to the shape of the frame for which they are intended and are mounted or inserted.

The production of plastic lenses is discussed in a later section.

Mass-production of glass lenses starts with blanks which are produced in moulds to required curvatures. The blanks are roughly ground on a machine called a "generator" to produce the exact curvature corresponding to a particular power. They are then smoothed, "fined" (or finely ground) and polished. These steps are also performed in a laboratory when it converts a semi-finished lens to fill a prescription. The difference between the equipment in a laboratory and a lens factory is in the degree to which the equipment is specialized. In a factory, the grinding, fining and polishing equipment is designed in most cases to produce a specific type of lens. In contrast, "flexibility" is the key word in a laboratory since the operator must be able to adjust the machines to deal with a wide range of prescription values.

Multifocal lenses constructed from a single piece of glass go through the same three basic steps as single-vision spheres and cylinders, although the actual physical operations will differ. In the case of multifocal lenses

constructed from separate pieces of glass with different indexes of refraction, the "countersink", as the smaller blank used for near-distance vision is called, first has to be fused to the larger blank through the application of heat and then slowly cooled.

A surfacing laboratory receiving the average range of prescriptions is able to satisfy roughly half of them from its stock of finished lenses. To complete these prescriptions, only equipment to edge the lenses is required. Other functions that may be performed on lenses include hardening and tinting. Large laboratories and those operated by the larger companies in the industry sell ophthalmic instruments and supplies to ophthalmologists and optometrists. In addition, most laboratories serve as frame wholesalers.

There are a number of establishments which perform solely edging and finishing operations. As noted above, they are limited to finished lenses in the frequently encountered powers. These laboratories do not appear to be an important factor in the production and distribution of ophthalmic products and are likely to be affiliated with one or more dispensers. In the following, the term "laboratory" when used without qualification is reserved for surfacing laboratories.

Sophisticated edging equipment costs in the neighbourhood of \$6,000, but equipment is available for much less. Numerous opticians and optometrists choose to do their own edging as there are wide differences in price between lenses purchased as stock lenses and those purchased as individual prescriptions from a surfacing laboratory. Another possible reason why dispensers may choose to do their own edging is that they can then more quickly meet many of their clients' needs.

Much wholesale frame distribution is carried on by firms which specialize in this function. Some of these firms also distribute stock lenses, but this is generally a minor part of their activities. Frame distribution is characterized by the practice of frame manufacturers, the most important of whom are European, of granting exclusive distribution rights to particular Canadian firms. Frame houses, as wholesale frame distributors are sometimes termed, hold some important exclusives, as indicated by the "signature" lines and the prestige of some of the companies whose products they distribute.

The stages of production and distribution of contact lenses are similar to those of conventional lenses. The lenses are supplied to contact lens fitters by specialized laboratories which, with one exception in Canada, import the "buttons" from which the contact lenses are fabricated. As discussed in the chapter on contact lenses, there are important physical differences among the materials used to produce soft contact lenses.

Vertical Integration

An important feature of the ophthalmic products industry is the extent of vertical integration. Stripped to the essence of the concept, all firms can be said to be vertically integrated to some degree, in the sense that they produce or provide internally goods or services that are used in creating their output for the market. However, the term is usually reserved for firms that produce or provide for their own use goods or services that are considered to be the outputs of one or more separate industries. A firm which extends its operations by supplying internally a commodity which it previously purchased is said to be integrating backward, and one which extends its activities to include those performed by its customers is said to be integrating forward.

For convenience, several degrees of vertical integration may be identified in the production and distribution of ophthalmic products. These are firms which:

- (a) manufacture lenses or frames and operate chains of laboratories and dispensing outlets;
- (b) manufacture lenses or frames and operate laboratories;
- (c) own dispensing outlets serviced by an affiliated laboratory.

In addition, dispensers that do their own edging are also vertically integrated to some degree, although they are probably not generally considered to be so.

Type of Lens

Single-vision lenses which are used to correct the most common visual problems are spheres, cylinders and sphero-cylinders. Cylinders are prescribed when astigmatism is present and spheres when the patient is myopic (near-sighted) or hyperopic (far-sighted). Plus and minus spheres are distinguished by the fact that plus lenses are thickest at the optical center and gradually taper towards the edges, while the opposite condition holds true for minus lenses. With spherical lenses the optical power is constant in all meridians while the optical power changes from meridian to meridian in a cylindrical lens. Sphero-cylinders combine the properties of spheres and cylinders.

The power of a lens is based on the degree to which it causes light to bend and is measured in units called "diopters" generally represented as "D":

"Ophthalmic lenses are manufactured in eighth diopter intervals. This difference has been found to be the smallest increment discernible to the patient, although quarter diopter steps present a degree of accuracy sufficient in most cases. Thus the available dioptric range of ophthalmic lenses is: Plano (no power but possessing the quality optical characteristics), +0.12 D., +0.25 D., +0.37 D., +0.50 D., +0.62 D., +0.75 D., +0.87 D., +1.00 D., +1.12 D., +1.25 D.,¹ ... etc.; -0.12 D., -0.25 D., -0.37 D., ... etc."

Virtually all laboratories show a range of lens powers from plano to plus or minus 20 D in their price books. Prescription values are concentrated in the lower powers and gradually fall off throughout the higher powers. Mr. George Adamson of King Optical Company said that 54 per cent of single-vision prescriptions fall within the plano to 2 D range. (Mr. Adamson's reference was to lenses within the first division, which until recently comprised the plano to 2 D range for most laboratories.) The frequency of occurrence of prescription values determines whether they are completed on both sides using mass-production techniques or whether they are produced in semi-finished form and finished to individual order by a laboratory. Spherical lenses are produced to stock up to 6 D or

7 D, depending on the manufacturer. Multifocal lenses, which are discussed below, are generally finished on one side only by the manufacturer.

Generally, as people grow older, there is a loss in the ability to focus on objects held close to the eye, a condition known as presbyopia. Plus lenses, which have the property of magnifying objects, are prescribed to correct this condition. The problem which multifocal lenses are designed to solve is that of providing the wearer with lenses with sufficient magnification for near vision in a way which does not interfere with distant vision. The alternative is for separate spectacles to be worn.*

The most common multifocal lenses are bifocals. They consist of two segments with different optical powers. The segments are available in a variety of shapes and sizes which are prescribed to meet diverse occupational and recreational needs. Some bifocals are fabricated from a single piece of glass or plastic, while others are made by fusing two pieces of glass of different indexes of refraction.

Individuals requiring a high plus-power addition in the near-vision segment of their bifocal lenses are likely to have difficulty with intermediate distances. Trifocals, which like bifocals are available in single-piece construction or fused form, contain an additional segment with less plus-power than is contained in the near-vision segment.

There have been a number of attempts to develop an "invisible" multifocal lens--that is, one which does not show the demarcation between the portions of the lens with different optical powers. One way this is accomplished is by gradually varying the power of the lens between the distant and near-vision portions so that there is no sharp break in power. In effect only the intermediate portion of the lens undergoes progressive changes in power, since

* Bifocals may also be prescribed in cases of eye-muscle imbalance.

the upper and lower portions contain the distant and near-vision prescriptions, respectively.

This is the approach adopted by the French ophthalmic products firm, Essilor International, whose lens is the most widely sold progressive power lens in Canada. It introduced the first design of its lens in the 1960's and followed with a second generation of design in the early 1970's. The lenses are marketed by Essilor under the name of Varilux 1 or 2 to distinguish the first from the second generation. Under agreements between Essilor and Imperial Optical Company Ltd. (discussed elsewhere) the lenses are marketed by Imperial under the name of Multilux.

At least until the Varilux 2, the main advantage of a lens with progressive additions in power was cosmetic:

The main difficulty in any lens that gradually increases in power is that vision on either side of a vertical line through the optical center produces unwanted, unprescribed cylindrical power, causing great distortion. This is the fault of the Omnifocal and the Beach, and to a lesser degree, of the Multilux or Varilux lens.²

According to Mr. Claude Le Page, Vice-President and Director of Essel Optique Canada Ltée, the Varilux 1 did not provide good lateral vision, a view which was put more graphically in a textbook on ophthalmic optics:

"... a 'rocking motion' is observed when the patient utilizes the lateral intermediate area."³

Modifications in the design of the Essilor lens are intended to eliminate the problems wearers experienced with the earlier lens. Essilor International holds Canadian patents issued April 9, 1974 (No. 944984) and January 6, 1976 (No. 981075) on inventions designed to provide lateral vision improvements.

The discussion of the difficulties experienced with Varilux 1 are not intended to convey the impression that there are no adjustment problems for wearers of bifocals or trifocals. However, the fact that no multifocal lens meets all needs and can be used by first-time wearers without problems means that, should lenses with progressively

varying power be developed to the point where they are on a par with or are superior to the average all-purpose multifocal lenses, they could come to account for the largest share of multifocal lens sales. Manufacturers of multifocal lenses and some professionals may now feel that this point of technical development has already been reached.

As noted above, Essilor's second generation of design of lenses with progressively varying power appears to account for most of the sales of such lenses in Canada. To the knowledge of the Commission, the only other lens of this type marketed in Canada is a lens of French manufacture marketed by Vilico Optical Inc., a Montreal-based laboratory, under the name of "Zoom". In the United States, the Titmus Optical Company, incorporated in 1970, introduced a lens about which one author states:

"The optics of the lens are, for all practical purposes, similar to the Varilux [1]."⁴

It is not known to what extent the development of this lens has kept pace with Essilor's. Nor is it known whether the patents held by Essilor will serve to block the technical development of competing lenses. In any event, American Optical Corporation, of which AOCO is the Canadian subsidiary, has developed a lens of progressively varying power and it is reasonable to believe that other lens manufacturers of glass and plastic lenses are engaged in the field.

Based on the number of pairs of lenses shipped by manufacturers in the United States in 1972, multifocal lenses accounted for 35 per cent of all glass lenses shipped. The overall proportion of prescriptions which called for multifocal lenses was likely to be 2 or 3 percentage points less since bifocal contact lenses are rare and in 1972 plastic multifocal lenses were sold in smaller numbers relative to single-vision lenses than was the case for glass lenses. The proportion of spectacle wearers with multifocal lenses depends on the population older than their mid-40's at one end of the scale and on the other, on the very young among whom the incidence of defects in vision is much lower than average. In the last census year, 1971, 32.9 per cent of the population aged nine or more were 45 years or older, a figure that has remained virtually the same between 1961 and 1974.⁵ Although a continuation of low birth rates would tend to increase the proportion of the population accounted

for by the group 45 years and older, it is likely that any marked changes in the relative position of multifocal lenses within the conventional lens field will result from competition by substitutes such as contact lenses.

When the value of glass and plastic multifocal lenses (value, but not physical volume figures, is presented for plastic lenses) shipped in the United States is compared with single-vision lenses there is a reversal of positions, with multifocal lenses accounting for 51 per cent of factory shipments.⁶ The major part of multifocal lenses is shipped in semi-finished form and thus the figure of 51 per cent understates the importance in value terms of multifocal lenses compared with single-vision lenses at the same stage of fabrication. A two-week sample in 1976 of four laboratories in different parts of Canada (from questionnaire survey of laboratories conducted by the Commission) shows that multifocal lenses accounted for about 60 per cent of sales by value.*

Plastic Lenses

First experiments with plastic as a useful lens material apparently date back to the mid-1930's, but it is only quite recently that they have assumed an important place in Canada.

* The figure obtained is 58 per cent, but this understates the value of multifocal lenses at the same stage of fabrication as single-vision lenses. The price charged for edging and inserting lenses in the frame was not higher for multifocal lenses except for certain types of frames. The presence of a cost component which is independent of the type of lens serves to reduce the relative value of multifocal lenses. Based on the rough assumption (derived from prescription price lists) that the price charged for edging and mounting single-vision lenses accounts for 20 per cent of the prescription price and that the corresponding figure for multifocal lenses is 10 per cent, the relative value of multifocal lenses increases from 58 to 60 per cent.

Plastic lenses produced in the United States use a basic material called CR-39, which when heated with certain catalysts:

"... gradually solidifies into a hard, infusible, clear thermoset polymer. It may then be cast into useful objects such as transparent sheets, rods, tubes, lenses and other articles."⁷

Other materials, called copolymers, may be added by manufacturers to give lenses desirable properties such as lightness or strength. However, it appears that the known copolymers, while improving the lenses along some dimensions, add to their undesirable properties among others, such as susceptibility to scratching.⁸

The mixture is placed in moulds with curvatures to create finished or semi-finished lenses. Once the shape of the lenses is set through the application of heat, heating them at some future time will not change their shape as will occur with plastic frames. A basic difference between glass and plastic lens production is that grinding is the predominant method in the one, and casting in the other, even though glass lens blanks may be cast to a desirable curvature on one side.

Apart from physical differences between glass and plastic which must be taken into account when the lenses are being fabricated, finished lenses from either material can be considered as interchangeable with respect to their optical properties. Nevertheless, there are important physical differences between the two materials that are taken into account when a choice between them is made by the refractionist, dispenser or spectacle wearer.

The major advantages of plastic lenses are that they are stronger and lighter than glass lenses. Until fairly recently, however, the use of plastic lenses had been very limited in the United States and Canada. A textbook on ophthalmic dispensing published in 1970 reports that:

For a number of years, in most of Europe and North America only a small percentage of ophthalmic lenses worn by the public have been made of plastic. In the U.S. it has been something like five percent, and less than four percent in Britain. Yet curiously,

in France the percentage is higher than thirty! A very significant reason, according to some of their optical leaders, is that French people are exposed to considerable advertising by optical manufacturers. Another is that practitioners at all levels, relaying the exhortations of manufacturers, make a habit of advising *all* children and teenagers to wear plastics for safety; nine out of ten French children do.⁹

The safety factor provided by plastic lenses was strongly emphasized in the United States when the Food and Drug Administration in 1972 made it compulsory, save in highly unusual cases, for impact-resistant lenses to be prescribed. The operative subsection of the order reads in part that:

(d) The physician or optometrist shall have the option of ordering heat-treated glass lenses, plastic lenses, laminated glass lenses, or glass lenses made impact-resistant by other methods; however, all such lenses must be capable of withstanding an impact test in which a 5/8 inch steel ball weighing approximately 0.56 ounce is dropped from a height of 50 inches upon the horizontal upper surface of the lens. . . .¹⁰

Although heat-hardening, the most common method employed, can be used to strengthen glass lenses, there is serious question whether lenses of conventional thicknesses (as compared to thicker lenses designed as safety glasses for industrial use) are adequate to meet the needs of those concerned with the safety of their lenses.¹¹ This point of view was also taken by Dr. Ronald W. Campbell, Chief, Division of Medicine, Bureau of Medical Devices, Department of National Health and Welfare. To quote from a pamphlet on eye safety distributed by Educational Services, Health Protection Branch of this Department:

"At the present time, optical plastic lenses generally seem to offer the broadest choice and highest level of impact-resistance for general use."¹²

Other factors noted in the pamphlet, however, may determine the type of impact-resistant lens purchased or whether impact-resistant lenses should be purchased at all.

The other significant advantage of plastic lenses, as noted earlier, is that they are lighter than glass lenses. This is an important consideration for those who must use lenses in the higher powers. In particular, post-cataract patients with strong plus lenses are major beneficiaries. In recent years the move towards the use of frames which require large lenses has also made the weight of lenses a consideration for low-power lenses.

The major disadvantage of plastic lenses is that they scratch more easily. Should this difficulty be overcome, plastic lenses could easily come to occupy the major share of the conventional lens market.

A rapid increase in the use of plastic lenses has occurred in Canada and the United States following the low levels of use during most of the 1960's. Between 1967 and 1972, the only recent years for which United States Census of Manufacturers' figures are available, the value of factory shipments of plastic lenses in the United States increased from 3.2 per cent of conventional lenses to 10.4 per cent. How much of the increase can be directly attributed to the Food and Drug Administration's policy is not known. In any event, it can be assumed that the elimination of supply bottlenecks and corresponding relative reductions in prices, together with increased familiarity with plastic lenses, have resulted in further relative growth in their use since 1972.

Official figures on the use of plastic lenses in Canada are not available since they are not manufactured in Canada and plastic and glass lenses are not segregated in import figures. Such evidence as is available indicates that plastic lenses now occupy an important part of the conventional lens sales. Of the 40 surfacing laboratories operated by Imperial and its subsidiaries, seven have separate plastic surfacing facilities and one is completely devoted to plastic lenses. (Because of their susceptibility to scratching, plastic lenses have to be ground in an environment free of glass particles.) In addition, there are now several laboratories that are completely specialized

in plastic lenses. Moreover, since laboratories and dispensers as well, are able to edge stock plastic lenses even if they do not surface them, the number of plastic surfacing laboratories is not an adequate guide to the present importance of plastic lenses. Mr. J. E. Casson, Assistant to the President of Imperial, was of the opinion that plastic lenses currently account for as much as 20 per cent of lens sales. Mr. Robert Laforce of Robert Laforce Incorporée, said that 20 to 25 per cent of the lenses dispensed through his outlets were plastic.

The rapid increase in the demand for plastic lenses that developed in the early 1970's resulted in supply bottlenecks and a scramble for supplies. During this period the ability to obtain supply contracts or exclusive supply relations with established plastic lens producers weighed heavily in the competitive position of laboratories. Imperial was successful in arranging exclusive distributorship for the multifocal and aspheric* lenses of the Armorlite Lens Company Inc., a U.S. manufacturer, and a partial exclusive arrangement for the Orma single-vision lenses produced by Essilor in France. According to the testimony of independent laboratory operators, there are now sufficient supplies to meet general needs, but some effort may be required in obtaining particular types of lenses.

* Aspheric lenses are generally used for patients who have been operated on for cataracts.

CHAPTER II

DESCRIPTION OF COMPANIES

This chapter describes several important firms in the ophthalmic products industry which are referred to in subsequent chapters. In some cases these descriptions are enlarged in other parts of the Report as specific activities of the companies are discussed. Also, a number of brief descriptions of other companies are provided as these companies are introduced in various parts of the Report.

AOCO Limited

Ownership and direction. AOCO Limited is a wholly-owned subsidiary of American Optical Corporation which is a wholly-owned subsidiary of Warner-Lambert Company, a firm with annual world-wide sales of \$2.2 billion in pharmaceutical and other products.

American Optical manufactures and markets ophthalmic products including both single and multifocal lenses, soft and hard contact lenses, ophthalmic frames, cases and prescription sunglasses in addition to machinery and ophthalmic instruments for the detection and treatment of vision and eye defects. It manufactures a wide variety of instruments used in research, medicine, education, and industry, e.g., optical and scanning electron microscopes, measuring instruments, projection equipment, fibre optic devices, diagnostic instruments and intensive care coronary monitoring units. American Optical also manufactures and sells industrial safety products including protective eyewear, welding helmets, face shields and hoods, safety clothing and respiratory protective devices. Sunglasses are manufactured and distributed under the trade mark "Cool-Ray".

American Optical's executive offices are located in Southbridge, Massachusetts, where it has facilities for the

manufacture of ophthalmic products (other than ophthalmic instruments) and safety products, in addition to facilities for research and development. American Optical has approximately 160 prescription laboratories in various states of the United States. It has subsidiaries in Austria, Brazil, Canada, France, Mexico, the United Kingdom and West Germany.¹

AOCO Limited was first incorporated in 1907 under the name of Consolidated Optical Company Limited. The company first began manufacturing operations in Belleville, Ontario, in 1922.

AOCO has five divisions: (1) the Scientific Instruments Division, which sells microscopes and microtomes; (2) the Cool-Ray Division, which sells Polaroid sunglasses, primarily through consumer outlets; (3) the Safety Products Division, which sells eye protective equipment and other protective items; (4) the Optical Products Division, which manufactures and distributes eyeglass components and refraction instruments; and (5) the Medical Instruments Division, which sells equipment for intensive care and for cardiac monitoring.

AOCO is a vertically-integrated firm from manufacturing through to dispensing. All of AOCO's dispensing outlets are wholly-owned with the exception of a Fredericton firm of dispensing opticians, Gillies Optical Co. Ltd., in which AOCO has a 60 per cent interest.

In 1976, Mr. Carl Bergmann was the recently-appointed president of AOCO. In 1975, AOCO and its subsidiary company, Select Optical Service Limited, had net sales of \$24,606,000. It employed about 850 persons in Canada in 1976, including 275 to 280 of them in its manufacturing plants.

AOCO in Canada has some patents on processes and some patents on some of its equipment, but (according to Mr. Bergmann) these patents do not play a major role in the distribution of the company's products in Canada.² According to Mr. Bergmann, AOCO has lost much ground in the ophthalmic frame market in Canada in the postwar period. In the period after 1970 the Belleville lens plant lost a considerable share of its business, the major cause being the lack of export business and also a decline in sales in Canada related

to the increased market share taken by plastic lenses. AOCO stated that it has no exclusive franchises on frames.

Manufacturing operations. Following the conclusion of Hearings the Commission was informed that AOCO was discontinuing lens production in Canada because of inadequate sales.

The Optical Products Division of AOCO had two manufacturing plants. One at Nicolet, Quebec, manufactures ophthalmic frames, Cool-Ray sunglasses and safety products. Some of these products are manufactured from raw materials and some from components imported from the United States. The second manufacturing plant, located at Belleville, produced glass lenses only. The range included single-vision lenses and three types of bifocal lenses (kryptok, executive and flat top). The Belleville installation includes AOCO's central warehouse for Canada.

Glass lenses were manufactured from blanks bought from Corning Glass, from American Optical's own plant in Southbridge, and from Pilkington Brothers in England. At Belleville the blanks were surfaced and polished. Most of the lenses made there, including all the bifocal lenses, were sold in the semi-finished state, but the Belleville plant produced finished single-vision lenses also. In mid-1976, AOCO employed 120 persons in the Belleville manufacturing operations.

AOCO has made ophthalmic frames at Nicolet since 1920. The company markets three types of frames in Canada: metal, all plastic, and combination (a metal chassis with plastic top and perhaps a plastic temple). Although AOCO makes all three types at Nicolet, plastic frames are the most important. In manufacturing the last-named, AOCO cuts blanks from the basic plastic sheet stock and assembles the blanks and other components. The necessary hardware (hinges, screws and temple cores) is imported from the United States. Complete production of metal frames is carried on in Nicolet. Injection moulded frames, which are used for consumer sunglasses only, are made from parts imported from the United States; only the final assembly is undertaken in Canada.

Although AOCO manufactured lenses for export, its exports declined considerably since 1970 so that it produced

no single-vision lenses for export at the time of the closing of the Belleville plant. AOCO did produce some bifocals for export.

AOCO manufactured its photogrey lenses (photochromatic) in Canada but only of the single-vision sphere type. Single-vision cylinder lenses, flat top bifocals and executive bifocals in the photogrey line were imported along with fringe items, e.g., lenses in powers, base curves and additions that are not frequently used. Plastic lenses are imported from an affiliate in France and bear the trade name "AO-Lite CR-39". AOCO has not been heavily involved in the contact lens area; AOCO opticians who fit contact lenses select the product of their choice. A soft contact lens manufactured by an affiliate in France is being introduced in a number of Canadian retail stores. Two or three of AOCO's retail stores are importing hard lenses from American Optical's Contact Lens Division in the United States, but the volume of such imports is not significant.

AOCO buys some kryptok lenses and sunglasses from Bausch & Lomb Optical Company Limited.

AOCO sells lenses and frames to other Canadian manufacturers, to independent wholesale laboratories and independent dispensers, in addition to distributing them to its own laboratories and dispensing outlets.

Wholesale laboratories. AOCO has 25 wholesale laboratories in Canada, all of which surface and edge lenses. The surfacing of plastic lenses is carried on in two locations only and coating is not done in every laboratory. The laboratories procure their lenses primarily from AOCO's central warehouse. Frames are procured from other Canadian manufacturers, the American parent company, and from European suppliers. AOCO bought semi-finished lenses from other companies in Canada when it was short of stock or did not manufacture them. According to Mr. Bergmann's best recollection, no AOCO laboratory dispenses to the public. Mr. Bergmann estimated that about 75 per cent of the eyeglasses dispensed by AOCO's retail outlets were fabricated in AOCO's laboratories, but on the other hand that 65 per cent of AOCO's wholesale laboratories sales were to independent retail outlets. Broad confirmation of these figures was obtained in a survey of laboratories by

the Commission. Four laboratories were closed by AOCO in the period from 1973 to 1976.

Instruments. Ophthalmic instruments are sold by AOCO to ophthalmologists, optometrists and opticians as well as to wholesale laboratories and distributors, including Imperial which is AOCO's most important customer for instruments.

AOCO imports all its ophthalmic instruments, which are made principally in the American Optical plant in Buffalo, New York. Other manufacturers' lines are not carried in a major way.

Equipment. AOCO is not engaged in the sale and supply of laboratory equipment for surfacing, polishing and edging but does sell some laboratory tools and supplies.

Retail operations. The number of retail outlets owned by AOCO has varied in recent years as stores have been opened or closed. On June 23, 1976, Mr. Bergmann indicated that there were 77 retail outlets in Canada, including Gillies Optical and those outlets in Robert Simpson stores and Simpsons-Sears stores which are operated by AOCO's subsidiary, Select Optical. Twenty-seven of AOCO's retail outlets are in the Simpsons-Sears stores and five in Robert Simpson's Toronto stores. Activity at the retail level expanded considerably in the 1970's.

AOCO has a contract with The Robert Simpson Co. Ltd. and with Simpsons-Sears for the operation of AOCO optical outlets in their stores. These outlets have refraction rooms which AOCO rents to optometrists who in Ontario are reimbursed for their professional services by the Ontario Health Insurance Plan (OHIP); there is no fee arrangement between AOCO and the optometrists on the basis of patients referred. In 1976, AOCO did employ two optometrists in Ontario, but it was moving to discontinue this in line with Ontario's Optometry Act. AOCO employed one optometrist in Quebec in 1976.

AOCO's retail outlet in Belleville is the only one which bears the company's name. All of AOCO's other retail outlets bear names chosen for local appeal, which probably means that the names of acquired outlets are retained. A

complete list will be found in Appendix I to this Report. The more important names involved, aside from Select Optical (32 stores), are McManus & Stronach (nine stores in southern Ontario), Gillies Optical (five stores in New Brunswick), Crescent Optical (four stores in Alberta), Ramsay-Matthews (three stores in Manitoba), Barlow & Barlow (two stores in the Montreal area), and J.C. Williams (two stores in Toronto).

About 75 per cent of the eyeglasses dispensed by AOCO's retail outlets are fabricated in AOCO laboratories. AOCO's retail outlets deal with independent laboratories when AOCO's laboratories are unable to provide service. The frames used by AOCO's dispensaries are selected and purchased centrally; about 25 per cent of them are made by AOCO.

Mr. Bergmann said that retail operations are becoming more important to AOCO in maintaining activity and profits at the manufacturing level and at the wholesale laboratory level.

Relations with Imperial Optical Company Ltd. At the time when the Commission was hearing evidence Imperial was AOCO's biggest customer for AOCO's lenses. Sometime in the period 1969-1971, Imperial ceased to manufacture flat top bifocal lenses and AOCO agreed to supply them to Imperial. Imperial also bought executive bifocals from AOCO. The lenses were supplied to Imperial in Imperial's boxes in special production runs. The specifications, standards, inspections, etc., on the lenses sold to Imperial were the same as on lenses for AOCO's own use. The prices to Imperial were negotiated in relation to Imperial's estimates of the quantities which it would purchase.

Bausch & Lomb Optical Company Limited

Bausch & Lomb Optical Company Limited is a wholly-owned subsidiary of Bausch & Lomb Incorporated, a United States company incorporated in the State of New York. The principal executive offices are in Rochester, New York. The parent company manufactures soft contact lenses and other ophthalmic products, scientific instruments, and consumer products.

The company's soft contact lens is marketed under the name "Soflens". Other ophthalmic products include single-vision and multifocal prescription lenses, spectacle frames and prescription eyewear, and ophthalmic instruments and equipment. It manufactures and markets spectro-chemical analysis equipment, a wide range of microscopes and microscope accessories, and in the category of consumer products, "Ray-Ban" sunglasses, binoculars, rifle sights, ski and wind goggles, shooting glasses, readers, magnifiers, camera lenses and telescopes.

In the United States, the parent company is party to a licensing agreement with National Patent Development Corporation regarding soft contact lenses. Under this agreement Bausch & Lomb Incorporated is granted an exclusive sub-licence under designated patents and patent applications by National Patent Development Corporation in the western hemisphere and elsewhere. Bausch & Lomb Incorporated has disputed the enforceability of this licence. The dispute apparently centres around a claim for royalty payments by National Patent Development Corporation in excess of those already made by Bausch & Lomb Incorporated. If Bausch & Lomb Incorporated should win this dispute, its success would eliminate patent protection for its Soflens in the U.S.A. and could affect the patent in Canada and other western hemisphere countries.

Bausch & Lomb Incorporated operates 10 manufacturing plants in various parts of the United States, and operates laboratories in 150 locations. The company owns plants in Argentina, Brazil, France, West Germany, Canada, the United Kingdom and Switzerland. Canadian subsidiaries are Bausch & Lomb Optical Company Limited and Bushnell Optical of Canada, Ltd. One of the parent's subsidiaries is Soflens Insurance Company, incorporated in New York State.³

In 1975, Bausch & Lomb Incorporated had sales of \$333,883,000 of which \$70,514,000 were accounted for by Soflens products. Other ophthalmic products accounted for \$114,847,000.

The Canadian company. About 1935 Bausch & Lomb Optical Company Limited began operations in Canada as a sales organization with a laboratory in Toronto. In 1949 it built

a manufacturing plant in Midland, Ontario. At the time of the Commission's inquiry in 1976, Bausch & Lomb was engaged in manufacturing, wholesaling, wholesale laboratory operations and retailing. Its Midland manufacturing plant employed approximately 105 employees in mid-1976 while the company's Soflens operations resulted in the employment of about 48 people in Toronto and from 21 to 28 in Midland. Total employment in manufacturing operations in Canada in mid-1976 appears therefore to have been 155 persons. The Commission has been informed that the Midland plant was closed in the spring of 1977. Soflens manufacturing was continued in Toronto and the company's distribution centre continued to operate. In 1975 the Canadian company had net sales of \$11,901,883.

Manufacturing activity. At its Midland plant Bausch & Lomb had produced single-vision lenses (both semi-finished and uncut), both white and photochromatic; a number of semi-finished tinted lenses for export; flat top photochromatic bifocals; kryptok bifocals; and metal frames for sunglasses only. All other frame production had been phased out around 1974. At that time the growing popularity of European styles had caused falling sales which led to production runs not long enough to cover set-up costs.

In 1949 a percentage of the Midland's plant production was exported. Over a period of time the range of products was increased and production became uneconomical in some cases because of short runs. In 1972 or 1973 the Midland plant was converted to the manufacture of photochromatic single-vision lenses, the intent having been to make the Midland plant the world production centre for this product. When it was decided subsequently to manufacture the photochromatic lenses in the United States, the Midland operation had to be reorganized so as to produce both white lenses and photochromatic lenses. As a result the Canadian company's imports of white lenses from Argentina were reduced.

One hundred per cent of the kryptok lenses produced in Midland were being sold in the Canadian market in 1976 as well as 90 per cent of the flat top photochromatic lenses; the remaining 10 per cent of the latter were exported. Fifty per cent of the single-vision lenses produced in Midland were for export. Mr. Lawrence D. Curran, President of Bausch & Lomb, indicated that the Midland plant shipped about \$25,000

worth of lenses to Rochester, New York, every month. Bausch & Lomb was the only company in Canada which manufactured photochromatic flat top lenses. The Canadian company did not manufacture plastic lenses. These lenses were imported from the parent company until it discontinued production in 1975, afterwards from other sources.

Contact lenses. Bausch & Lomb does not produce hard contact lenses.

The soft lens business is, however, an important part of the total activity of Bausch & Lomb in Canada, the product being sold under the trade name "Soflens". The Soflens is manufactured by a spincasting process in Rochester, New York. The lenses are shipped in a semi-finished state to the Canadian company, which finishes, edges and sterilizes them. The spuncast soft lenses are available only in certain base curves and sizes and (according to Mr. Curran) cannot be used by everyone. The Canadian company sells the Soflens in finished form directly to ophthalmologists, optometrists and opticians. Soflens is the only product carried by the Canadian company which is not made available to distributors.

In addition to the spuncast Soflens, Bausch & Lomb in recent years has begun the production and marketing of lathe-turned soft lenses in Canada. In contrast with the spuncast Soflens, lathe-turned soft lenses can be ground to different curvatures and can be made in different sizes; as a consequence they can be made to practically any prescription which requires spherical lenses. A number of other firms have been producing a lathe-turned soft lens for several years.

Laboratories. In 1976 the Canadian company operated six surfacing laboratories and four edging laboratories. Prior to May 1976 the company had seven surfacing laboratories and three edging laboratories.

Bausch & Lomb surfaces plastic lenses in Toronto only. In the latter part of 1973 the company opened a surfacing laboratory for plastic lenses in Edmonton but closed it in June 1975 because of personnel problems and after incurring losses. The plastic surfacing equipment was initially moved from Edmonton to Vancouver and a laboratory opened there, but subsequently it was closed and sold to Haida Optical Laboratories Ltd.

There are only three laboratories from which some dispensing is done, two of these being in Hamilton and Windsor where the company's industrial customers (Ford and Chrysler) are served. Some dispensing for employees and their families as well as some rush jobs are handled at the company's Toronto laboratory. Aside from these three laboratories, however, no company laboratory undertakes dispensing.

Retail operations. In the early 1970's, Bausch & Lomb opened four retail dispensing outlets. These operations were of an experimental nature undertaken because of the company's fear, at the time, that optometrists would be excluded from dispensing. It began withdrawing from this area and disposed of these retail operations by May 1976. The retail outlets were obliged to obtain laboratory services from the company.

Industrial and institutional contracts. Mr. Curran testified that the Canadian company has participated very little in the market for safety lenses or in institutional or industrial contracts. The company has succeeded in selling plano safety lenses but, as it has very limited dispensing services, it has not been very successful with regard to safety glasses incorporating a prescription. It has contracts with Ford, Chrysler, and Stelco, although the latter company has made separate arrangements for dispensing with some other firm.

Mr. Curran indicated that the Canadian company bid on three or four government contracts per year. At the time he testified (May 1976) the company did not hold any. In most cases the company did not even bother to bid.

Relations with Imperial and AOCO. Mr. Curran testified that Bausch & Lomb's laboratories bought a large size kryptok lens from Imperial in limited quantities. The company sold photochromatic flat top lenses and sunglasses to Imperial. Imperial, with its large marketing organization, is the largest single Canadian distributor of Bausch & Lomb instruments.

Bausch & Lomb sold kryptok lenses and sunglasses to AOCO in 1976.

Imperial Optical Company Ltd.

General description. The business firm now known as Imperial Optical Company Ltd. was founded by Mr. Percy Hermant in 1900. The firm started manufacturing lenses about 1917 when World War I cut off the supply of lenses from abroad. Mr. Percy Hermant's son, Mr. Sydney Hermant, succeeded his father as president of the company in 1959.

Imperial, a private company, is a wholly-owned subsidiary of Paja Company Limited. Paja also owns 100 per cent of the stock in Standard Optical Company Limited which owns and manages interests chiefly in the retail optical field. Paja, which also has holdings in various non-optical operations, mainly real estate, is wholly owned by members of the Hermant family. Imperial and Standard are the two principal operating companies of the group, with management centered in Imperial. Paja and Imperial interests extend to the fields of sanitary products and safety supplies.

Imperial is a vertically-integrated company, manufacturing finished and semi-finished lenses from imported lens blanks, spectacle frames, ophthalmic chairs, ophthalmic units and laboratory machinery. It imports lenses, spectacle frames, optical machinery and a wide range of ophthalmic instruments. Imperial distributes these products to its own wholesale laboratories and retail dispensers; to independent optical laboratories, wholesalers and opticians; as well as to ophthalmologists and optometrists. Imperial's wholesale laboratories provide complete optical services to the dispensing professions. The company carries on a number of specialized services such as the supply of low-vision aids, the custom fabrication of spectacle frames and the assembly of special types of eyeglasses.

Related companies. Standard Optical Company Limited, like Imperial a wholly-owned subsidiary of Paja Company Limited, owns one optical laboratory in Toronto. It operates directly some 15 retail optical firms. In addition, it has varying degrees of ownership, generally 50 per cent, in over 100 optical firms which are chiefly retail establishments.

Brampton Optical Company Limited, a wholly-owned subsidiary located in Brampton, Ontario, operates one of Imperial's two lens manufacturing plants.

Imperial owns 100 per cent of the shares of Canada Zyl Company Limited (which also uses the business style Canada Optical Company), which manufactures plastic frames at Deseronto, Ontario.

Imperial has a half-interest in Plastic Contact Lens Company (Canada) Ltd., the other half-interest being held by Wesley-Jessen The Plastic Contact Lens Company Inc. of Chicago, Illinois.

Imperial holds a 94 per cent interest in National Optical Co. Ltd., Imperial's chief operating arm in the Province of Quebec. National has three laboratories in that province and acts as a wholesale distributor.

Imperial has a 67 per cent interest in General Optical Co. which owned a laboratory in Montreal. After the establishment burned, General Optical purchased Jaloptic Limitée.

Argus Optical Frames Limited, a wholesale company half-owned by Imperial, imports and wholesales frames.

Hudson Optical Ltd., in which Imperial holds about two-thirds of the shares, operates 10 wholesale laboratories in Alberta and British Columbia.

Imperial owns half-interests in two other companies which provide laboratory services, H & M Optical Company Limited of Toronto and Bingham Optical Company Ltd. of Chatham, Ontario, the latter company being engaged in retail dispensing as well.

Fort Realty Ltd., a company with interests in the retail optical trade in British Columbia, Alberta and Saskatchewan, is owned half by Lakeshore Holdings and half by Standard Optical. Lakeshore Holdings is owned by Mr. Thomas Bradbury and his sister. Fort Realty, which was incorporated in 1953 and entered the retail optical business in 1959 or 1960, has complete or partial ownership of 53 dispensaries in British Columbia, nine in Alberta and two in Saskatchewan. Mr. Bradbury, in addition to being one of the two owners of Lakeshore Holdings, is Imperial's manager for its British

Columbia operation; Mr. Bryan Bradbury, his son, manager of Imperial's branch in Victoria.

A chart of the Imperial organization is presented in Appendix II.

Glass lens manufacturing. Imperial has two glass lens manufacturing plants, one located in Toronto, the other in Brampton. These plants manufacture semi-finished bifocals and single-vision sphere and cylinder lenses on a mass-production basis from glass blanks imported from Corning Glass in the United States and Pilkington Brothers in England. In bifocals, Imperial manufactures only kryptok lenses, most of which are distributed in semi-finished form. Imperial manufactures 80 per cent of all its lens requirements in its own plants. This production, however, amounts to 54.1 per cent of the total value of all the lenses which Imperial distributes in Canada, the other 45.9 per cent being purchased. The difference in values is accounted for by the higher unit cost of the multifocal lenses and plastic lenses purchased by Imperial. Imperial no longer makes flat top bifocals but had a purchasing arrangement with AOCO prior to the closing of AOCO's manufacturing plant. (The present situation is not known.) Imperial buys photochromatic flat top lenses from Bausch & Lomb.

Imperial's production of glass lenses has been sharply reduced over the past ten years because the consumption of contact lenses and of plastic conventional lenses has been rising and because exports of glass lenses have declined as a percentage of production. Imperial imports the semi-finished and finished plastic lenses for conventional eyeglasses. Practically all the volume of Imperial's lens manufacturing plants goes to its own branches.

Imperial markets its first-quality glass lenses under the trade name "Corectal", and its second-grade glass lenses under the trade name "Cortex". Impact-resistant glass lenses are supplied under the trade name "Hardex".

Imperial markets a glass progressive-vision lens under the trade name "Multilux 2". This product is purchased from Essel Optique Canada Ltée of Montreal (a subsidiary of

Essilor) in the form of a semi-finished lens which Imperial grinds to the patient's prescription. Imperial does not sell the Multilux 2 lens to other laboratories in semi-finished condition. The Multilux 2 is actually the same lens sold by Essel Optique under the trade name Varilux 2. Imperial is the exclusive agent in Canada for the Welsh "Fourdrop" lens, a special type of lens for patients who have been operated on to remove cataracts.

Plastic lenses. Imperial imports plastic lenses from either Essilor (the "Orma" lens) in France or Armorlite in the United States. The impact-resistant plastic lenses sold by Imperial are sold under the trade name "Hardlite". Imperial had only one plastic lens laboratory in 1971, in 1976 it had seven.

Contact lens manufacture. The Plastic Contact Lens Company (Canada) Ltd., in which Imperial has a half-interest, manufactures hard contact lenses in its plant in Toronto. The plastic buttons which form the raw material for these lenses are imported from the United States. Imperial has eight contact lens laboratories.

Frame manufacturing. Imperial's subsidiary, Canada Zyl Company Limited, manufactures plastic frames at Deseronto, Ontario. At the time of the Commission's Hearings in 1976, frame production had been increasing but not significantly, and a very small percentage of that production was being exported. By far the greatest part of the frames sold by Imperial are imported.

Manufacture and supply of equipment. Imperial manufactures two items of equipment used in ophthalmologists' and optometrists' offices, but both are said to be of diminishing importance to the company. These are an ophthalmic chair and an ophthalmic unit, the latter being a piece of equipment that stands beside the ophthalmologist's chair and on which he places his slit lamp, ophthalmometer and phoropter.

Under a licensing and royalty arrangement with the Coburn Company, Imperial manufactures some lens grinding machinery for its own use and for sale to competitors. Coburn, however, continues to sell its machinery in Canada in competition with Imperial. Imperial imports its glass lens machinery

from other American and European sources and makes plastic lens machinery for its own use. Although the company has an engineering department, it is now basically a repair department.

Supply of ophthalmic instruments and equipment. Although Imperial does not manufacture ophthalmic instruments, it is the largest distributor of instruments in Canada. For example, Imperial carries slit lamps manufactured by five different firms (two in the United States and three in Europe). Most optical instrument firms in Canada have only one slit lamp for sale, if they carry any at all.

Imperial buys sophisticated testing and diagnostic equipment from AOCO and from Bausch & Lomb and sells it to ophthalmologists and optometrists in competition with the two manufacturers. Imperial is an important distributor of Bausch & Lomb equipment and is the largest single distributor of Bausch & Lomb instruments. Imperial is the sole agent for the Storr Instrument Co. of St. Louis, Missouri. As a result of its widespread laboratory coverage Imperial has a much more extensive sales and service organization in Canada than either AOCO or Bausch & Lomb.

The company makes a considerable effort to keep up to date on new instruments and equipment offered by manufacturers in Britain, Europe, Japan and the United States. Every two months, Imperial publishes *The Imperial Bulletin*, which advertises and promotes the sale of such equipment and is distributed to ophthalmologists and hospitals. Illustrated brochures on ophthalmic equipment are distributed to customers, seminars and conferences. Films on specialized ocular surgical procedures and special equipment are made available to interested groups. Imperial also distributes ophthalmological and optometric textbooks.

Laboratories ("branches"). The officers of Imperial refer to their optical laboratories as "branches", but the term covers some establishments in which neither surfacing nor bench work is undertaken. The number of branches has varied somewhat in recent years as the company has closed some and opened others. On April 1, 1976 Imperial and its subsidiaries and affiliates operated 129 branches in Canada. Of that total

105 belonged to Imperial itself, 10 to Hudson Optical, three to National Optical, one to Jaloptic Limitée, one to Bingham Optical, eight to Plastic Contact Lens Company (Canada) Ltd., and one to H & M Optical. From 1970 to 1976, Imperial closed 12 branches while its affiliates closed four. Of the 108 branches owned by Imperial and National Optical 51 offered retail service, 35 offered complete laboratory services including surfacing of lenses, eight undertook surface grinding of plastic lenses, and 63 performed bench work only. These figures cannot be added to any meaningful total because some laboratories offered two or more of the services mentioned. Additionally, Imperial subsidiaries operated 14 branches including Hudson Optical's 10 in Alberta and British Columbia.

A degree of consolidation and specialization has developed among Imperial's laboratories although at one time all branches were largely self-sufficient. An outstanding feature of this process has been the setting up of central surfacing laboratories, each of which performs much of the surfacing for a certain geographical area. Imperial's automated laboratory for both Hardlite and glass lenses in Toronto was established sometime in the period from 1968 to 1970 and was intended to serve the whole of Ontario. The company has centralized facilities in Vancouver, Edmonton, Halifax (glass only), Dartmouth (plastic lenses only), Winnipeg and Saskatoon.

Retail dispensing outlets. According to Mr. Casson, in May 1976 Imperial had 395 dispensing outlets (including those of its affiliates and wholesale branches which do dispensing). A full list of the 332 retail-only dispensing outlets is found in Appendix III to this Report.

Imperial operates 13 optical dispensaries in The T. Eaton Company Limited stores in Ontario, but does not operate optical dispensaries in Eaton establishments outside of Ontario. There are 19 wholesale branches which offer dispensing services in Ontario under the Imperial name. In Ontario as well as in other provinces, however, Paja Company Limited has ownership interests in a large number of optical outlets which do not bear the name "Imperial Optical". Many of these are operated through Standard Optical and in Ontario embrace such names as George H. Nelms Limited, Shorney's Opticians,

Braddock Optical, House of Spectacles, W.E. Davies Dispensing Opticians, and Sutherland & Parkins Opticians.

Although only two branches in the Prairie Provinces dispense under the name "Imperial Optical" (Winnipeg, Manitoba and Yorkton, Saskatchewan), Paja has extensive ownership interests on the prairies in optical outlets bearing other names such as Hale Optical, Optical Prescription, and Benson-Law Opticians.

In British Columbia (and to a lesser extent in Alberta and Saskatchewan), Standard Optical and Fort Realty have 64 optical outlets operated by the latter. The representatives of the Bradbury family and of Standard Optical meet twice a year to consult on basic policy, expansion and the general direction of the business. Fort Realty's pricing policy is the responsibility of the manager of Fort Optical Management, a subsidiary of Fort Realty. The names under which these optical outlets operate in British Columbia include Oculist Prescription, Prescription Optical, Hale Optical, and London Optical. In the Province of Quebec, affiliates and subsidiaries include R.F. Baril Inc., Mildon & Morris Inc., Laurentian Optical, and Service d'Optique Elite Ltée.

According to Returns of Information filed with the Director of Investigation and Research by Standard Optical for the year 1973, its 118 affiliated and subsidiary dispensing firms made, on the average, 75.8 per cent of their total purchases from Imperial and its affiliates. Of the 118 dispensing firms, 67 made over 75 per cent of their purchases from Imperial and its affiliates. In 1975, affiliated and subsidiary dispensing outlets obtained 95.5 per cent of their lens supplies from Imperial laboratories. This volume represented 54 per cent of the laboratories' lens sales.

Imperial's relation to the Canadian Guild of Dispensing Opticians. Imperial has been a major force in the development of educational programmes for dispensing opticians and in the passage of provincial legislation giving dispensing opticians legal status. An important body that has contributed to these ends is the Canadian Guild of Dispensing Opticians. The activities of the Guild and Imperial in these fields will be discussed in the chapter on dispensing opticians.

Essel Optique Canada Ltée

Essilor International, a major French optical company, has 17 subsidiaries around the world, principally in Europe, two in the United States and one in Japan. Its subsidiaries in the United States are Silor Incorporated of Long Island, New York, and Multi-Optics Corporation of Chicago. Essilor has been represented in Canada from about 1968 and in 1972 it formed the subsidiary company Essel Optique Canada Ltée.

Essel Optique Canada Ltée operations in Canada consist largely of frame and lens wholesaling and laboratory services. Essel also sells an instrument for measuring interpupillary distance produced by its parent company. Lenses and frames are bought exclusively from manufacturers within the Essilor group. It has the exclusive licence for the Varilux 2 lens in Canada, selling it in both finished and semi-finished forms. Principal products in Canada are the Varilux 2 lens and plastic single-vision lenses, sold under the "Orma" trade name.

Before opening its own laboratory in 1975 Essel used independent laboratories in Montreal to finish the semi-finished Varilux 2 lenses which it imported from France. These laboratories did not sell the finished lenses. Essel now sells the Varilux 2 in semi-finished form to Imperial and a restricted number of optical laboratories in Quebec.

Essilor's arrangements with Imperial for the final production and marketing of the Varilux 2 and Orma lenses is discussed in Chapter VI.

Kahn Optical Company Ltd.

The Kahn Optical business began in 1902 or 1903. Kahn Optical provides laboratory services and distributes spectacle frames, lenses, cases, lens processing machinery and eye testing equipment. Kahn Optical is the Canadian distributor for Shuron and Univis products. It distributes Orma products also. Certain of the company's distributing functions are carried on under the name Optical Distributors

Limited. Mr. F. Kahn, Secretary-Treasurer and General Manager, appeared before the Commission on behalf of the company.

Kahn Optical is active in Western and Central Canada; is relatively inactive in the Maritimes and not active at all in Newfoundland. The company has 10 laboratories in nine cities. In Toronto there are two laboratories, one for plastic lenses, one for glass lenses. The other laboratories are located in Edmonton, Calgary, Regina, Winnipeg, Kitchener, Brantford, Ottawa and Montreal. Until 1975 or 1976 all were full-service laboratories. Mr. Kahn testified that one of them had recently become an edging laboratory only. Kahn Optical does not enter into industrial or government contracts.

L'Optique Richelieu, Ltée

L'Optique Richelieu is unusual in that it is owned predominantly by optometrists. It was founded in 1963 to take care of the needs of 17 or 18 optometrists located on the south shore of the St. Lawrence River, principally in Saint-Jean, Granby, Saint-Hyacinthe and Sorel and carried on business on a small scale until 1967 when expansion was undertaken. Initially there were 15 stockholders but by 1976 there were 140. Of that number approximately 130 were optometrists, the others were officers of the company and a few opticians, who became shareholders beginning in 1974. Since 1968 the general manager had been Mr. Ramon Custeau.

L'Optique Richelieu and Veracon Inc. are controlled by Unisol Inc., a holding and management company. The shareholders of Veracon, a contact lens laboratory, have been shareholders of Unisol since February 1976. Prior to its association with Veracon, L'Optique Richelieu did not handle contact lenses.

L'Optique Richelieu has six laboratories. Two of them are located in Saint-Hyacinthe, one the company's main laboratory, the other a laboratory dealing with plastic lenses exclusively. The other laboratories are located in Shawinigan, Montreal, Quebec and Rimouski. The company distributes frames and safety glasses and bids on government and industrial contracts. According to Mr. Custeau, the share of

L'Optique Richelieu's volume with its shareholders has tended to diminish as its business has grown. A minor part of the company's business is with opticians.

Integrated Laboratory Dispensers

The firms in this section occupy important positions in several parts of the country. They each operate a chain of dispensing outlets and rely mostly on internally-supplied laboratory products to serve them. Only a small part, if any, of these firms' laboratory products are supplied to dispensing outlets outside their own organization.

King Optical Company

Prior to October 1975, King Optical Company was owned by a corporate partnership composed of Canadian corporations owned by American shareholders. In October 1975, ownership passed to four Canadian companies. Mr. George Adamson is the general manager.

King Optical owns 18 retail outlets, all in Ontario. A separate, related company has one dispensing outlet in Montreal. King Optical has one central laboratory, located in Scarborough, which performs the surfacing and edging for all of the King Optical outlets. Plastic lenses go to outside laboratories for surfacing but King Optical assembles the finished lenses in frames. Metro Optics, a mail-order firm affiliated with King Optical, does work for four or five retail dispensing outlets not affiliated with King Optical.

In the past, when the Ontario Optometry Act so permitted, King Optical employed optometrists directly. With the advent of medical insurance and changes in the Ontario Optometry Act, King Optical terminated the employer-employee relationship with these optometrists. Prior to changes in the Optometry Act, King Optical had provided space to its optometrists in its own offices, in adjoining office space, in offices downstairs from King Optical's premises, or in premises across the road. King Optical referred customers to those optometrists when a client asked for an eye examination.

The optometrists would perform the refraction and give the patient a prescription to take wherever he chose, but presumably most patients returned to King Optical to have the prescription filled. At present King Optical has no employer-employee relationship with optometrists, but leases office space to them. These offices may be in or adjacent to King Optical offices or in adjacent buildings.

Stewart N. King Ltd.

Stewart N. King Ltd. operates a chain of dispensing outlets. The company has one outlet in Thunder Bay, Ontario, four in Winnipeg, one in each of Thompson, The Pas, and Brandon, Manitoba, and five in British Columbia of which three are in Vancouver. The company has its own optical laboratory. Besides supplying its own dispensaries, the firm sells optical goods to independent optometrists and independent opticians.

Robert Laforce Incorporée and Laboratoire S.O.S.

Mr. Robert Laforce is the founder and principal owner of Robert Laforce Incorporée, a company which operates dispensaries in the Quebec City area. The company, which was formed in 1964, has 10 dispensing outlets.

Mr. Laforce owns a surfacing laboratory, Service Optique Scientifique, known as Laboratoire S.O.S. In 1976 it served the Laforce dispensing outlets and one independent customer, an optometrist. Finishing laboratories are located in each of the dispensing outlets.

Mr. Laforce is associated with a laboratory for contact lenses known as Centre de Verres de Contact Charest Incorporé. The firm had not yet been incorporated at the time that Mr. Laforce testified but upon incorporation he was to own 98 per cent of the shares.

Mr. Laforce said that a number of optometrists are located near his dispensaries in order to accommodate his customers in need of an eye examination.

Public Optical

Public Optical is the business style of Claude Abrams Industries Limited which operates retail dispensing outlets in Toronto, Hamilton and Ottawa. Public Optical extensively advertises "glasses the same day" and operates a prescription laboratory in each of the three cities to supply its own dispensaries. Customer referrals for a refraction are made to an optometrist.

Sea View Optical Limited and Ebert Howe & Associates

Ebert Howe & Associates, Optometrists, operate a chain of seven optometric dispensing outlets, five of which are in the Vancouver area, one is in Port Alberni and one is in Victoria. They are located in Woodward's stores. The practising partners of Ebert Howe & Associates are the sole owners of an associated company, Sea View Optical Limited, a full-service laboratory which solely supplies the outlets of Ebert Howe & Associates with most types of conventional glass lenses.

Western Optical Co. Ltd.

Western Optical, a company incorporated in 1957 by Mr. I. F. Hollenberg and Mr. J. J. Abramson, manufactures eyeglasses and contact lenses and operates retail optical dispensaries.

Western Optical and its affiliated companies have 24 retail outlets in Alberta and British Columbia. These interests include 19 outlets of a firm called Optical Department of London Drugs, owned by Western Optical; one outlet in Lethbridge, Alberta, called Centre Optical; three Western Optical stores in the Interior of British Columbia; and the Western Optical outlet in Vancouver. Some of the London Drug Optical outlets adjoin London Drugs' stores and others are nearby. London Drugs' stores and the Optical Department of London Drugs are separately owned and their respective outlets operate out of separate locations.

Western Optical has its own laboratory facilities serving its own outlets. An affiliated company, Morgan Optics, Ltd., manufactures contact lenses.

CHAPTER III

LEGISLATION GOVERNING OPTOMETRY

The Profession of Optometry

Definitions. The definitions of "optometry", "optometrists", or the "practice of optometry" in the provincial enactments delimit the field of optometry with varying degrees of precision. In some provinces it is necessary to make reference to legislation governing the medical profession in order to complete the delimitation of the field, particularly with the use of drugs. A comprehensive and precise definition of "practice of optometry" is found in the Optometry Act of Nova Scotia:

"practice of optometry" means the employment of any means other than the use of drugs, medicine or surgery for the measurement of the powers of vision and the aid and correction thereof; and without restricting the generality of the foregoing shall include any one or any combination of the following practices of optometry:

- (i) the investigation of the functions of the human eye by means of test-lenses, test-cards, trial-frames, and other instruments or devices designed for the purpose of such investigation;
- (ii) the prescription or adaptation of lenses, prisms, or the use of orthoptic instruments of any kind for the purpose of improving or correcting the visual function, or for adapting the visual functions to the requirements of a special occupation; (Sec. 1(j)).

Under most of the optometry acts optometrists are not permitted to use drugs. Only in Ontario is the exclusion subject to some qualification:

"practice of optometry" means the services usually performed by an optometrist, including the measurement and assessment of vision, other than by the use of drugs, except such drugs for such purposes as are prescribed by the regulations, . . .
(The Health Disciplines Act, Sec. 91(1)(f)).

Ontario Regulation 585/75 under the Health Disciplines Act 1974 Optometry, Section 24, permits the use of topical anaesthetics only. The section does not permit the use of dilators or accommodation suspenders.

Limitation of practice to registered optometrists.
Without exception, the optometry acts provide in one way or another that the practice of optometry shall be limited to registered optometrists, the necessary exceptions being made for physicians. In some instances (where the scope of the optometry act embraces all dispensing) there are exceptions for opticians who fill the prescriptions of medical doctors or optometrists. In some provinces there is an exception for students in optometry and for orthoptic technicians practising under an optometrist or a medical doctor. The optometry acts require that a person hold either a registration certificate or an annual licence or both before he may practise.

Certain grandfather clauses still appear to be relevant. In Quebec persons who practised optometry in places at least 25 miles away from an optician or an optometrist prior to January 1, 1971 may continue to do so as long as there is no optometrist or dispensing optician in the municipality or within 25 miles. Furthermore, persons who before April 1, 1961 were engaged in fitting contact lenses and who fit contact lenses under the supervision of a physician or an optometrist may continue to do so.

The practice of optometry is made up, on the one hand, of eye examinations, diagnosis and prescription and, on the other hand, of dispensing services and the sale of ophthalmic goods to patients. These services are also provided through the combined effort of ophthalmologists and dispensing opticians. Eye examination diagnoses and prescription services are available from ophthalmologists (and to a limited extent from other physicians) as part of a more comprehensive eye-care service, while dispensing of eyeglasses is carried on by the optician. With regard to contact lenses the dispensing function is provided by ophthalmologists also.

There is reason to divide the market for ophthalmic goods at the retail level into that supplied by optometrists and that supplied by the ophthalmologist-optician. However, this picture is not completely accurate to the extent that many optometrists have chosen to discontinue dispensing and, in other cases, optometrists are associated with opticians, with the optometrist limiting his role to the diagnostic function. In addition, even where optometrists do their own dispensing, patients may choose to go to an optician in order to have a wider frame selection or for other reasons.

As discussed later, there are strictures in several provinces against optometrists allying themselves with opticians if this places the optometrist in an employee situation. With regard to optometrists in private practice limiting the scope of their practice to diagnostic work, the official spokesmen for the profession in all parts of the country are adamant in their rejection of the imposition of such a limitation; on the contrary, they see dispensing as an integral part of optometric practice. However, optometrists are free in all jurisdictions to eliminate the dispensing function if they so choose.

The establishment of a licensing and disciplinary body. In all of the Western Provinces, and in New Brunswick, Nova Scotia and Prince Edward Island, the statutory body which is charged with the admission of members to the practice of optometry and their registration and discipline is the same body which is, in fact, the optometrists' professional organization. In Ontario, the statutory licensing and disciplinary body is distinct and separate from the optometrists professional association, the former being the College of Optometrists of Ontario, the latter the Ontario Association of Optometrists. In the Province of Quebec, the disciplinary and licensing functions are carried on by the Order of Optometrists of Quebec while the optometrists' professional organization is the Professional Association of Optometrists of Quebec. The Newfoundland Optometric Association is the optometrists' professional organization in that province, while the licensing and disciplinary functions by law are entrusted to the Newfoundland Optometrical Board, which is composed of five members appointed for three-year terms by the Minister of Health from duly-qualified practising optometrists.

The laws of all the provinces except Newfoundland provide, in effect, that all persons who have certificates of registration and annual licences (in Ontario only a licence is required) are declared to be members of the disciplinary and licensing body. However, in most cases provincial legislation provides for the establishment of a group within the licensing and disciplinary body to manage the statutory body on a day-to-day basis. The management groups are generally entrusted with the power to make regulations governing entry into the profession and the conduct of the profession of optometry. Exceptions occur where these powers have been conferred upon a board of examiners or upon some particular committee.

Provisions Governing Conditions of Entry into the Profession of Optometry

Prior to beginning practice as an optometrist, a person must be registered with the licensing and disciplinary body of the province in which he intends to practise and must have complied with all of the requirements for registration. The general pattern of entry requirements is that the person who applied for registration must have satisfied the particular province's requirements as to general education, have a certificate in optometry from a school or college of optometry which has been accredited by the college, association or bureau of the particular province, must present evidence of good moral character, be of a certain minimum age, be a resident of the province in which he seeks to practise and submit to examinations which might be set by the governing body or a board of examiners. After paying the requisite fees, he is registered and issued a certificate of registration or a licence, or both, and may begin practising. The most important limitation on the supply of optometrists lies in the fact that there are only two schools of optometry in Canada: one in Waterloo and one in Montreal.

With regard to persons who have practised optometry for a considerable number of years but who have not had academic training or acquired an academic degree as is currently required of new entrants, there are usually grandfather clauses which permit them to continue to practise if they have been licensed before a certain date, have valid licences, or have been licensed under some previous act. Optometrists who have practised in a given province for a period of time, but who wish to move to a different province, usually must show that they are in good standing with the college, association or

order of the province from which they seek to move, that their licenses have never been revoked or suspended and that they have not been refused registration in another jurisdiction. Apart from this feature, it appears that the qualifications for registration are much the same for optometrists whether they happen to be natives of the province in which they wish to practise or whether they seek entry from another jurisdiction.

Provisions Affecting Commercial Relations

Practice in a mercantile establishment or employment by a retailer. Provinces vary in their provisions as to whether an optometrist may be allowed to practise in a mercantile establishment. Some provinces forbid the practice, although within this group some provinces have a related grandfather clause. At least one province permits the practice and two provinces apparently have no provisions on the subject. Some provinces forbid an optometrist to be employed by a retail merchant.

Practice in a mercantile establishment appears to be forbidden in British Columbia (subject to a grandfather clause which lost its effectiveness in June 1977). The Regulations require that an optometrist's office be used exclusively for the practice of optometry and that the entrance to it be separate and apart from the entrance to any room or rooms used for any other purpose. In Saskatchewan, the By-laws of the Saskatchewan Optometric Association declare it to be unprofessional conduct for a member to locate his office in, or to have access to his office through a merchandising establishment. In Ontario, it is professional misconduct for an optometrist to practise where any of the public entrances or exits of the member's premises are within or connected with the premises of a retail merchant, optical company or ophthalmic dispenser. This provision was subject to a grandfather clause, effective to July 1979. In New Brunswick and Nova Scotia location of a practice in commercial premises is in effect prohibited. The Optometry Act of Alberta (Sec. 38(a)) incorporates a completely opposite view:

Nothing in this Act prevents

- (a) the practice by a retail merchant of optometry at his ordinary place of business

or the carrying on therein of an optical department, if the practice and optical department are in charge of a member of the Association or a duly qualified medical practitioner, . . .

There are no provisions relating to practice in retail establishments in either Prince Edward Island or Newfoundland.

Several provinces prohibit the employment of optometrists by a retailer. In other cases the prohibitions are wider. In British Columbia, the employment of an optometrist by anyone other than an optometrist is forbidden. In Ontario, it is a conflict of interest and therefore professional misconduct for a member to engage in the practice of optometry with any person or corporation other than: with other optometrists; with a medical doctor; as an employee or an agent of a municipal or other government, university or hospital; within a community health centre if such employment has been approved; or within a corporation for the sole purpose of providing optometrical counsel and service to the employees of the corporation. This is subject to a grandfather clause which permits an optometrist to continue the practice of optometry in the employment of a retail merchant who operates an optical department where the optometrist has been so employed for a continuous period of 15 years on June 28, 1974. There is no time limit on this exception. In New Brunswick, an optometrist is forbidden to practise as an employee of a corporation, business or person whose main objects are other than the practice of optometry.

The Optometry Act of Quebec states that no person may practise optometry under a name other than his own although optometrists are permitted to practise under a firm name which is the name of one, several or all of the partners. This, however, is subject to what is effectively a grandfather clause which applies to retailers who operated optical departments before January 1, 1971, the administration of which was entrusted to an optometrist. Continued operation of such optical departments is permitted if their administration is entrusted either to an optometrist or to a dispensing optician who fills the prescription of a physician or optometrist.

A number of types of provisions have been written into legislation and regulations designed to prevent influences of an unduly commercial character from affecting the work of

optometrists. These provisions were intended to keep optometrists at arm's length from both retail dispensing and from the wholesale and manufacturing sectors of the optical goods industry. In some provinces there are also provisions with regard to rebates and fee-splitting.

The Commission was provided with considerable evidence on these matters in Ontario and Quebec. In Ontario, there is a conflict of interest constituting professional misconduct for a member of the College to:

own or financially benefit from the operation of a company, firm or business that manufactures, fabricates, supplies or dispenses ophthalmic appliances. (Ontario Regulation 585/75, 25(4)(f))

In Quebec:

An optometrist is forbidden to have any direct or indirect interest in an undertaking for the manufacture or sale of ophthalmic lenses. If an interest in such undertaking devolves to him by succession or otherwise, he must dispose of it immediately. (Act, Sec. 20)

But:

Notwithstanding section 20, optometrists who on the 1st of November 1972 had an interest in an ophthalmic lens manufacturing or sales business may keep such interest. (Act, Sec. 35)

The second provision quoted above enables those optometrists who on November 1st, 1972 held shares in L'Optique Richelieu, an optical laboratory founded by optometrists, to keep such interest. The number of optometrists owning shares in L'Optique Richelieu must necessarily decline as they leave practice for no further acquisition of shares in this company by optometrists is permitted.

Ontario's conflict of interest regulations also relate to optometrists dealing with other health professionals and with vendors of ophthalmic products:

It is a conflict of interest for a member where a member or a member of his family,

- (a) accepts rebates or gifts from a vendor of ophthalmic appliances, materials or equipment or from a person licensed or registered under any Act regulating a health discipline;
- (b) accepts credit from a vendor of ophthalmic appliances, materials or equipment, or from a person licensed or registered under any Act regulating a health discipline except where the terms of the credit provide a reasonable time for repayment, a reasonable rate of interest on the amount outstanding at any time during the period of credit, and the credit is not related to the referral of patients to the creditor;
- (c) rents or makes available premises to a tenant who is a person licensed or registered under any Act regulating a health discipline except at a rent normal for the area in which the premises are located and the amount of the rent is not related to the volume of business carried out in the premises by the tenant;
- (d) rents or uses any premises from a vendor of ophthalmic appliances, materials or equipment or from a person who has any association with such vendor, or from a person licensed or registered under any Act regulating a health discipline except at a rent normal for the area in which the premises are located and the amount of the rent is not related to the referral of patients to the landlord or to the referral of patients by the member or the amount of fees charged by the member.
(Regulation 585/75, 25(3))

Mr. Robert Lesage, counsel for the Order of Optometrists of Quebec, indicated that the law does not forbid an optometrist to employ an optician, but only the reverse. Mr. M. Denault, President of the Order of Optometrists,

said that optometrists cannot work for anyone except another optometrist or an ophthalmologist subject, of course, to a grandfather clause. However, he said that the Discipline Committee of the Order of Optometrists had to deal with some very difficult cases, such as those where an optometrist does not rent his premises, has his instruments purchased for him, directs his patients to a dispensing optician or the latter directs patients to him. In some such cases the Discipline Committee is frustrated because the people who could testify as to the true nature of the leases on the premises turn out to be officers of companies which have their head offices outside Quebec and who, therefore, cannot be summoned before the Discipline Committee in Quebec. He indicated that there are four such cases in which the parent companies are in optical goods manufacturing and distribution. In these cases there have been complaints lodged to the effect that the optometrists shared fees with wholesale laboratories or lens manufacturers.

There is a universal and strongly held feeling among the official optometric organizations against what is called "commercial practice". The brief of the Canadian Association of Optometrists (CAO) went to some length in drawing attention to those provisions of the optometry acts, regulations and by-laws which are aimed at preventing or minimizing such commercial practice:

Commercial practice has been defined by the CAO as being the employment of an optometrist by a company to perform vision care services to the public, where financial profits and control of the commercial and professional aspects of the practice lies with persons other than an optometrist. It also encompasses other financial arrangements such as premise leasing, etc., whereby the optometrist receives other inducements to locate and carry out his practice within a commercial setting.

The brief went on to indicate the number or percentage of optometrists employed in commercial practice in each province. These were as follows:

British Columbia	13 out of 164 (to cease by June 1977)
Alberta	6%
Saskatchewan	none
Manitoba	7 out of 60
Quebec	50 to 60 out of 600
Ontario	between 74 and 94 out of 552

There was one situation in Saskatchewan described in evidence which probably qualifies as a practice carried out in a commercial setting. "Commercial practice" was not covered under the optometry acts or by-laws of Prince Edward Island, Nova Scotia and New Brunswick when the CAO submitted its brief. However, the associations in the three provinces reported through the CAO that none of their members were engaged in commercial practice.

The concern expressed by CAO is that an optometrist in commercial practice is placed in a compromising position if the quality of professional services is impinged upon by the profit motive of the employer. Dr. I. Baker of the Ontario College of Optometry asserted that a health care practitioner should not be in any situation where there is or appears to be a conflict of interest and that the appearance must be stressed as much as the reality in relation to public expectation and confidence. He was opposed to "third party involvement" (the patient and the professional constitutes the first two parties) which, in his view, cannot decrease costs and might add to them. To him, vertical integration was such involvement. Additionally, if a large number of practitioners were controlled by two or three firms such large businesses might oppose legislation which is in the public interest. He asserted that this had already happened in Ontario where he claimed the optical industry had strongly opposed proposed sections of the Health Disciplines Act which were designed to prohibit the association of optometrists with the laboratories, i.e., to get optometrists out of commercial practice. Dr. Baker took the view that the dispenser, whether optician or optometrist, should be completely independent of the manufacturing and wholesaling operation in order that he have complete freedom to select the best source of material for a particular prescription and not be tempted to reduce his quality standards. Dr. M. E. Woodruff, Head of the School of Optometry, University of Waterloo, held similar views.

Mr. Denault expressed the view that if an optometrist works for an optician he is in a position where his prescriptions go automatically to the optician. Where the optician is connected with a vertically integrated optical firm the prescriptions are further directed to a particular laboratory. Looking at another aspect of the situation, Mr. Denault said that an optometrist who has his own laboratory is in a conflict of interest situation since he is the judge of his own work. He noted that there were only a few such cases in Quebec; those in which optometrists did their own finishing, vestiges of an older form of practice. With regard to optometrists who hold shares in L'Optique Richelieu, Mr. Denault expressed the view that they are not in conflict of interest because they would have to prescribe excessively and in an abusive manner in order to obtain a worthwhile sum in dividends from L'Optique Richelieu, and, in so doing, would lose their professional credibility and risk legal action by the Order. Experience showed, he claimed, that optometrists who were shareholders were more rigorous vis-à-vis L'Optique Richelieu than other optometrists.

Fee-splitting and rebating. Specific provisions prohibiting fee-splitting are found only in British Columbia, Ontario, and Alberta. However, in Alberta the practice is permissible between optometrists.

In three provinces only, there are specific provisions barring rebates. In British Columbia, the prohibition seems to be aimed at rebates from opticians only. A member is guilty of unprofessional conduct if he:

Receives directly or indirectly, any rebate, commission, refund or discount from any person, who supplies ophthalmic materials to the Optometrist's patients, whether said rebate, commission, refund or discount be in the form of money or property or whether it be based upon a percentage or upon the difference between wholesale and retail price or otherwise; (Regulations of the Board of Examiners, 34(i)).

In Ontario, the relevant provision appears to aim at all levels of the optical trade and of the health sector, for it makes it a conflict of interest for a member to accept:

. . . rebates or gifts from a vendor of ophthalmic appliances, materials or equipment or from a person licensed or registered under any Act regulating a health discipline; (Regulation 585/75, 25(3)(a)).

In Saskatchewan, fees or rebates in either direction for referrals between an optometrist and suppliers or distributors of ophthalmic materials or vice versa are forbidden.

Provisions Affecting Business Practice

Advertising. With the exception of Prince Edward Island and Newfoundland, all provinces have strict provisions governing advertising. Although mostly prohibitive, some provisions require an optometrist to advertise only in a particular way, or to obtain prior approval or both.

The position of CAO provides an overview of the approach taken to this subject by the national body representing the profession. Their brief stated that all provincial associations of optometrists agree that advertising must be limited to name, practice, address, degrees, telephone numbers and office hours. Some provinces explicitly forbid certain styles and content of advertising, such as illuminated or flashing signs in Manitoba and Alberta. Price advertising in those two provinces as well as in British Columbia and Nova Scotia is prohibited. Several other prohibitions are of particular interest. Some provinces specifically forbid the use of any form of television or radio advertising.* In British Columbia, Alberta, Saskatchewan, Manitoba, Ontario and Nova Scotia, the provisions in effect prohibit displays of merchandise so that it can be seen by the public or seen through a window. The fact that a form of advertising is

* Only radio is mentioned in New Brunswick (Regulation 26). Both media are referred to in Alberta (By-laws, 49(1) and 49(4) and Manitoba (By-law, 8(7)). The mention of only the older medium probably dates the New Brunswick legislation.

not specifically prohibited in any jurisdiction does not, of course, mean that it is permissible. The position expressed by CAO suggests that unless information other than that listed above is specifically allowed in legislation it must be assumed that it is opposed by the profession.

In Nova Scotia, the Optometry Act provides that:

No person shall advertise free examinations, charges, fees, discounts, allowances, terms of credit or terms or conditions of payment with respect to the practice of optometry or the price of glasses . . . in any newspaper, circular, card, booklet, magazine, sign or writing of any kind, by radio announcements or otherwise. (Act, Sec. 24)

Similar provisions are found in the statutes or regulations of British Columbia, Alberta and Manitoba. The general attitude of the profession, along with the policing powers of the provincial boards or associations in effect means that unless price advertising is explicitly permitted it falls in the category of "prohibited conduct".

Other Provisions Relating to Practice

Permissible number of offices. In two provinces there are specific provisions which restrict or regulate the number of offices (i.e., dispensing premises) that an optometrist might operate. In Ontario, it is professional misconduct for a member to practise in more than three offices or locations unless the Council has approved. In Quebec, the Optometry Act states that an optometrist may not keep more than one office unless each office is under the control or management of a member of the Order in good standing and that each such office must be permanent and open on specific days.

Requirement to make prescription available to the patient. In Ontario, it is professional misconduct for an optometrist to fail:

. . . to make available to a patient a written prescription for an ophthalmic appliance for the

patient containing all necessary and relevant clinical and ophthalmic specifications. (Regulation 585/75, 26(29)).

According to Dr. David Penman, Chairman of the Saskatchewan Medical Care Insurance Commission, optometrists in Saskatchewan are required by law to provide a copy of a prescription to a patient if it is asked for. While there are no statutory provisions in Quebec and Alberta, officials of the optometric associations testified that if a patient asked for his prescription so that he could have it filled elsewhere he was entitled to receive it.

Excessive fees. A number of provinces have provisions which ban the charging of excessive fees or fees that are in some way unusual. While the wordings of the provisions differ considerably from province to province, the common point of reference is the fee schedule found in all provinces except for Quebec. The matter of fee schedules and their use and interpretation is considered in Chapter VIII, which deals with pricing and other market practices. It might be noted here that a common position adopted by optometrists' representatives throughout the country is that the dispensing of ophthalmic appliances should be divorced from commercial practices such as markups on the wholesale value of such appliances. In their opinion ophthalmic appliances should be charged to the patient at the laboratory or wholesale cost to the optometrist (with a handling charge in some cases) and that the fees charged the patient be based on the services rendered in dispensing the ophthalmic appliance.

Commercial Involvement in the Ophthalmic Products Industry

The types of commercial practice captured in the statistics gathered by the CAO cover only some of the situations which might be considered commercial involvement in the ophthalmic products industry, which is meant to describe any income earned from the ophthalmic industry by an optometrist not obtained solely from fees for professional service. Most, if not all, of the examples of commercial involvement which have been brought to the attention of the Commission appear to fall under the Ontario by-law covering conflict of interest, and to lesser degrees in other provinces.

The examples of employment of optometrists which have come to the attention of the Commission almost all represent historical situations. King Optical, AOCO and Public Optical employed optometrists who practised in conjunction with the ophthalmic dispensing outlets of these companies. As described by Mr. C. H. Zinkel, a former executive in charge of AOCO's dispensing outlets, the optometrists generally managed the dispensing outlets and did both eye examinations and dispensing, with perhaps some help in performing the latter function. With the prohibition of such employment in Ontario, and with eye examinations by optometrists covered by OHIP, the employer-employee relationship was terminated and the optometrists had to pay rent for the premises used by them and to rely on payments for their diagnostic services by OHIP or their clients directly. These optometrists would probably fall in the category used by CAO of practising in a commercial setting. Not all optometrists with such practices are associated with companies in the ophthalmic appliances field. Several instances of optometrists operating out of department stores were noted during the course of the inquiry: in Eaton's Montreal, Winnipeg and Saskatchewan, and the Ebert Howe & Associates' locations in a number of Woodward's stores in British Columbia. It is presumed that most of the situations described above and similar ones, were captured by the statistics on commercial practice included in the CAO brief since they are easy to identify from the location of the optometrist's office. However, the CAO statistics only included situations that the provincial managing bodies considered offensive in interpreting the relevant provisions governing the profession. In addition, it is not known the extent to which the CAO statistics include what might be termed working relationships between optometrists and opticians, whether or not the latter are associated with a chain of ophthalmic dispensing outlets. As described by Mr. Denault, it is very difficult to identify conclusively when an optometrist and an optician have an agreement to refer clients to each other. In the words of Mr. Robert Laforce, there can be a "dialogue", which is the way he referred to the relationship between his company and a number of optometrists in the Quebec City area. In Edmonton, mention was made of some optometrists who had their offices in shopping centres and owned an ophthalmic dispensing outlet in

the same centre. In the latter situation, a two-way referral arrangement would, of course, be reinforced by the ownership tie. Such an ownership interest and practice is not banned in Alberta.

It would appear that any optometric practice in a high pedestrian traffic area can be made into a commercial-type practice, depending on what is presented to pedestrians. There is probably a good deal of ignorance of the distinctions between ophthalmologists, optometrists and opticians on the part of many consumers. The usual chain of events which concludes with the purchase of spectacles is one in which the consumer is examined by an ophthalmologist or an optometrist and then has the prescription filled by the optometrist or an optician. This pattern may vary where consumers are not accustomed to going to an ophthalmologist or an optometrist on a regular basis. Consumers who perceive the need for spectacles may approach a dispensing outlet in the belief, reinforced in some cases by advertising to that effect, that they can also obtain an eye examination through such an outlet. Under this circumstance or any other (e.g., where it is a matter of replacement lenses in the absence of a recent eye examination) where the first approach is to the dispensing outlet, there is a reversal of the usual order of events: the dispensing outlet is in the position of referring the consumer to an ophthalmologist or an optometrist. An optometrist in a heavy traffic area, who features the decor of a dispensing optician's outlet and who has a wide selection of frames, is in a position to attract consumers who have prescriptions written by other practitioners as well as consumers without a prescription, who can then be examined by the optometrist on the premises. Mr. Laforce described several shopping-centre locations of optometrists that, from his description, appeared to feature the dispensing function of optometry. There does not appear to be anything in acts, by-laws and regulations in Newfoundland, Prince Edward Island and New Brunswick that prevents optometric practices which present physical surroundings more usually associated with dispensing opticians' outlets.

All ophthalmic dispensing outlets known to the Commission to be located in department stores were classified as opticians' outlets in Chapter V dealing with market shares,

even if the outlets might be operated by or under the management of an optometrist. However, the information with respect to this came to light chiefly as regards large chain operations.

Laboratory ownership is an additional kind of involvement in the ophthalmic products industry by optometrists. Specific laboratory ownership situations which have been brought to the attention of the Commission include L'Optique Richelieu; Sea View Optical, which services the Ebert Howe & Associates' outlets in the Woodward's stores; Central Optical Company in Winnipeg; and Acadian Optical in Dartmouth, Nova Scotia, partly owned by an optometrist in St. John's, Newfoundland. The foregoing laboratories provide complete surfacing facilities. It is much more common for optometrists to do their own edging or to have it done by a worker in their employ, which is most easy to do where there is a group practice.

CHAPTER IV

LEGISLATION GOVERNING OPHTHALMIC DISPENSING

When the Commission began its Public Hearings, ophthalmic dispensing acts covering opticians were in existence in the provinces of Alberta, Manitoba, Ontario, Quebec, Nova Scotia and Prince Edward Island only. There were no ophthalmic dispensing acts in either British Columbia, Saskatchewan, New Brunswick or Newfoundland.

Before the conclusion of the inquiry New Brunswick passed "An Act to Incorporate The New Brunswick Guild of Dispensing Opticians", assented to on June 24, 1976. In Saskatchewan, The Ophthalmic Dispensers Act, 1977 was assented to on May 10, 1977, after final argument before the Commission. In British Columbia proposals for an ophthalmic dispensing act are under consideration by the government.

The Definition of the Occupation

In the majority of the provincial acts the ophthalmic dispenser or optician means a person who prepares and dispenses lenses, spectacles, eyeglasses and appurtenances on the written prescriptions of medical practitioners or optometrists.

Opticians are allowed to dispense contact lenses in all provinces, with additional training in contact lens fitting required in four of the eight provinces which have opticians' acts. This topic is explored further in Chapter X.

The Quebec Act, unlike those in other provinces, makes absolutely no reference to spectacle frames, nor does the Optometry Act, with the result that they may be sold in any store as a retail item. This has led to the establishment of outlets specializing in frames, "frame boutiques" or "frame

bars". Manitoba and Ontario do not ban the sale of ready-to-wear spectacles by ordinary retail merchants, but this now has only historical significance.

The Establishment of Licensing and Disciplinary Bodies

In every province which has an ophthalmic dispensing act, the act establishes a licensing and disciplinary body. Different patterns, however, are discernible in the ways in which the provinces have constituted these bodies and in the relationships that they bear to the practitioners which they govern.

In Prince Edward Island and Nova Scotia, the licensing and disciplinary bodies for ophthalmic dispensing are government-appointed boards which rule over the registered ophthalmic dispensers. Similar arrangements are in force temporarily in Ontario and Saskatchewan. In Saskatchewan, the licensing and disciplinary body is to consist of all registered opticians, but there is provision for a Transitional Governing Board to be appointed by the government for a period up to 18 months. In the other four provinces with opticians' acts, all opticians are declared to be members of the licensing and disciplinary body. The actual licensing and disciplining are entrusted, however, to a management group.

The Council which is eventually to take charge of the administration of the affairs of the Saskatchewan Ophthalmic Dispensers Association will be composed of five members elected by the Association and one or two persons appointed by the Lieutenant Governor in Council, if he considers it advisable. Dr. David Penman, Chairman of the Saskatchewan Medical Care Insurance Commission, who testified before Saskatchewan's The Ophthalmic Dispensers Act, 1977 was assented to, expressed the view that if Saskatchewan were to pass an ophthalmic dispensing act, checks and balances would be necessary to avoid a situation similar to that in Ontario in 1973 where the Board of Ophthalmic Dispensers had been composed entirely of representatives connected in some way with Imperial. The provision in the 1977 Act for Council members appointed by the Lieutenant Governor in Council may be designed to permit a balancing of representation in the Council should need arise.

Licensing and disciplinary bodies have the means to enforce obedience to the ophthalmic dispensing acts, regulations passed under those acts, and by-laws and codes of ethics authorized by the acts, directly or indirectly. Generally, regulations made by licensing and disciplinary bodies must be approved by the Lieutenant Governor in Council or by a Minister before they come into effect. Some avenue of appeal from disciplinary decisions is provided in all provinces; to the courts in the common law provinces, and in Quebec to the Tribunal of the professions, which consists of three judges of the Provincial Court appointed by the Chief Justice.

Imperial's Relation to the Canadian Guild of Dispensing Opticians

Imperial has been a major force in the development of educational programmes for dispensing opticians and in the passage of provincial legislation giving dispensing opticians legal status. An important body that has contributed to these ends is the Canadian Guild of Dispensing Opticians, a voluntary body which has representation in most of the provinces of Canada. Affiliated with it are a number of provincial organizations of opticians which may be known as opticians' associations or as guilds of dispensing opticians.

Testimony taken in 1976 indicates that all the directors of the Guild, except the Quebec members, worked for businesses affiliated with Imperial. Seventy per cent of the Guild's members are connected with Imperial interests in some way. Mr. Casson testified that Imperial has associate members in the Guild but no voting members and that Imperial is excluded from all the Guild's business meetings. A magazine, *Optical Management*, is distributed free to all Guild members, to all non-member opticians and to all student opticians. The magazine (produced in the United States with Canadian content added) is mailed from Imperial's head office. The Guild has relied to a great extent on the expertise and experience of Mr. Casson of Imperial when drafting legislative proposals. There has been no input in any area of the Guild from AOCO, Bausch & Lomb or any other optical company although Guild membership is open to them.

The programmes of education and training for ophthalmic dispensers in Alberta, Manitoba and Nova Scotia have been in the hands of the Guild since 1974. The Guild's course is the basis of the training programmes in force in Saskatchewan and Newfoundland. For some years the dispensing opticians' training course given by the Board of Ophthalmic Dispensers of Ontario, a course built on the basis of the Guild's course, had been provided to trainees under the Manitoba Opticians' Association's course and also to trainees in Nova Scotia. In 1974, however, the Ontario Board turned over the administration of the Manitoba and Nova Scotia courses to the Guild.

Provisions Governing Entry into Ophthalmic Dispensing

Opticians' training in most provinces consists of home study courses and on-the-job training. Only Quebec has a programme which requires full-time academic training. This consists of two years study at the Quebec School of Opticianry which replaced CEGEP Edouard Montpetit in 1976. In Ontario student opticians may either do their course work by attending Ryerson Polytechnical Institute or through correspondence courses. All other provinces* rely on home study courses offered by the Canadian Guild of Dispensing Opticians or by Ryerson which generally take two years. High school graduation appears to be widely required for entrance to the opticians' courses, although fewer years of academic training are sometimes acceptable. Quebec requires 2,000 hours of fitting in a dispensary after the completion of course work. One year of practical training is required in the other provinces but students are likely to spend two or more years if they are working in dispensing outlets while they are undertaking their course work.

* The educational requirements in Saskatchewan would be contained in the regulations under The Ophthalmic Dispensers Act, 1977. These regulations had not yet been passed when the Commission was researching this topic.

Two additional routes to obtaining a licence are provided in the acts of Alberta, Ontario, New Brunswick, Nova Scotia and Prince Edward Island. These appear to be intended for candidates from other provinces, or other countries. Manitoba's additional route also appears to be so intended.

All provincial acts have grandfather clauses; however, the extent to which they permit those acting as opticians to continue without taking examinations is not uniform. With regard to the two provinces which most recently enacted legislation, the Saskatchewan Act provides that every ophthalmic dispenser in practice in Saskatchewan who has not met the qualifications for registration under the Act shall be entitled to receive a provisional licence for a period, including licence renewals, up to 24 months. In New Brunswick, in contrast, any optician who has been in practice for a period of at least three years before July 1, 1976, provided that a qualified ophthalmologist or optometrist so certifies, is enabled to be registered as a dispensing optician.

To the knowledge of the Commission, there are no reciprocity agreements among the provinces facilitating the movement of opticians from one province to another. This topic was not systematically dealt with by any witness but the evidence that was given suggests that the qualifications and licence gained in any province are not totally acceptable to any other. In Quebec, opticians from other provinces or outside the country are required to complete the same course of study as Quebec residents. They are thus required to undergo a second round of training.

According to Mr. James W.H. MacLean, Vice-President of Ontario's Board of Ophthalmic Dispensers, applicants from outside of Ontario were referred to Ryerson which decided what courses were needed to meet the Ontario requirements. Upon satisfactory completion of these courses and after 2,000 hours of training with an Ontario optician, they underwent the examination on practical application provided by the Board.

Mr. J. Linney, President, The Ophthalmic Dispensers of Manitoba, said that an out-of-province candidate for registration in Manitoba must pass a composite written examination made up of Manitoba's first and second-year examinations

unless the applicant's guild or association provides information to the effect that the applicant has all these qualifications. The passing mark in the composite examination is somewhat higher than that set for the annual examinations written by student ophthalmic dispensers (70 per cent versus 66 2/3 per cent).

Mr. Casson of Imperial testified that quite a number of persons had been licensed in Manitoba after they had worked there for a year and then written the examination, but he thought that Manitoba was much more difficult to enter than were Ontario and Alberta.

From the viewpoint of Mr. Adamson of King Optical, the major impediment to movement into Manitoba for an out-of-province optician is the requirement of one year's training with a Manitoba optician. In Mr. Adamson's view, no Manitoba optician would employ a man for this required period if it was known that the candidate for registration was later to be employed by King Optical. The anticipated difficulty of the candidate in finding employment appears to be based on Mr. Adamson's perception of the antipathy of Manitoba opticians to price advertising, an approach relied on by King Optical.

Regulation of Advertising and Promotion

The laws, regulations, codes of ethics and by-laws of the licensing and disciplinary bodies for ophthalmic dispensing in most provinces have provisions against advertising in general or in relation to specific forms of advertising, or both. In Nova Scotia, Prince Edward Island and New Brunswick the approach is to prohibit advertising not conforming with the regulations. In both Nova Scotia and Prince Edward Island the regulations (V. (2)) under the respective Dispensing Opticians Acts state that:

No form of price advertising will be allowed either by published or broadcasted media or visible from the outside of the place of business.

In New Brunswick, unprofessional conduct includes "advertising of his practice or business premises by means prohibited by the regulations;" (Sec. 22(2)(c)). The Council of the Guild has power to make regulations governing advertising subject to the approval of the Lieutenant Governor in Council.

Testimony given by Dr. J. J. Stanton of the Nova Scotia Board of Opticians indicated that at the time that the Ophthalmic Dispensers Act and Regulations were being drawn up, Nova Scotia opticians wanted to follow the same ethics as ophthalmologists. He indicated that adherence to the Code of Ethics had been good and that the suppression of advertising ". . . makes it far easier for them [the opticians] to work in harmony as a group, . . ." ¹ Whenever advertising appeared that the Board of Dispensing Opticians did not like, the Board communicated once or twice with the offender and the offending advertisement was withdrawn. The Board has apparently never had to prosecute.

In Quebec, the Code of Ethics bans advertising on radio or television. A dispensing optician is forbidden to participate in television or radio programmes or in public debates as an optician without the Order's authorization, and he cannot use such opportunities to advertise himself, nor can he advertise or permit the advertising of himself or of his optical products by a business firm. The only advertising allowed in printed media and in letterheads is the professional card (name, address, etc.). Price advertising or any hint of favourable prices are specifically prohibited.

In Ontario, there are no explicit provisions about advertising in either the Ophthalmic Dispensers Act or in the Regulations. According to Mr. C. Thompson, Q.C., counsel for the Board of Ophthalmic Dispensers of Ontario, the former Board was opposed to price advertising on two grounds: that if the price is set in advance, the unknown cost factor represented by the cost of the lens might in some cases exceed the price and this might lead opticians to switch the patient to other merchandise so as to avoid losing money; and also because price advertising might be misleading because the public might not realize that low-priced eyeglasses might be inferior in quality to higher-priced ones. However, the Board had no control over advertising. In any event, in January 1975

the Board of Ophthalmic Dispensers changed its views with respect to price advertising.

In Manitoba, there can be no advertising unless it is first approved by the Council. According to Mr. A. Allentuck, a consultant who assisted the Government of Manitoba in making its submission to the Commission, advertising of premises, large advertisements and price advertising were discouraged by the Council on the grounds that it was "unprofessional". Testimony indicates that the Council of The Ophthalmic Dispensers of Manitoba has permitted television and radio advertisements but until January of 1976 it had never had to face up to whether price advertising would be permitted. At that time the ophthalmic dispensing firm of Stewart N. King Ltd. had inserted price advertising in the Winnipeg *Tribune* (January 23, 1976) and it had clearly done so without having the advertising approved and authorized by the Council. The outcome of this matter is not in evidence.

The Ophthalmic Dispensers Act, 1977 of the Province of Saskatchewan empowers the Transitional Governing Board to make regulations on advertising.

In Alberta, members of the Guild may not refer to prices or fees or terms of payment thereof in any advertisement or be employed by anyone who does so.

The Commission heard the views of many witnesses concerning price advertising. Dr. Daryl H. Green, Chairman, Ophthalmological Section, Manitoba Medical Association, expressed the opinion that price advertising implied poor quality. Many witnesses who represented professional and dispensing associations supported this view.

Mr. Marc Cossette, President of the Order of Prescription Opticians of Quebec, testified that the essence of the Order's opposition to price advertising was that it involved "a principle of commercialization", while the Quebec Government and the Order had accepted "a principle of professionalism".

According to Mr. Casson of Imperial, price advertising, if it became general, would lead to price cutting and

to quality deterioration because costs would have to be reduced. Mr. Casson said that the average person is sceptical of price cuts because he has doubts about the quality of the merchandise involved; consequently firms having a reputation for good-quality fitting and products do not have to advertise prices.

However, Mr. Adamson insisted that King Optical, which regularly employs price advertising, had work of first quality. Nevertheless, he felt that there should be some restraint on price advertising and supported the power of the Ontario Board of Ophthalmic Dispensers to discipline practitioners who employed unethical advertising.

Mr. Abramson of Western Optical testified that Western Optical advertised prices at all save one of its 23 outlets in British Columbia. At one outlet, a "carriage store" where only "boutique lines" were carried, Western Optical preferred not to advertise discount prices. Mr. Abramson said that this outlet was being closed and that an outlet in Lethbridge, where price advertising is prohibited, was not progressing as he would like. In his opinion Western Optical grew because of price advertising and regressed where it did not advertise.

Western Optical submitted a brief *inter alia* attacking the prohibition of price advertising in Alberta as resulting in higher prices than in British Columbia. The brief stated:

We submit, strong advertising, which mentions price, maintains a public awareness of the costs of eye-glasses and contact lenses to the benefit of the public Consumer.

Price advertising is essential to our basic freedom of choice. It creates awareness, a competitive market and an educated Consumer. It does not encourage poorer quality products, but rather a realistic market. To offer poor quality is poor business and any long term, responsible business realizes the importance of Consumer satisfaction.

The advent of vociferous Consumer Organizations and the inception of strong Provincial and Federal Government Consumer Legislation help assure today's Consumer true value, delivered to them through advertising that is direct and honest.

Prohibiting price advertising is the very antithesis of retailing and the optical business is a retail business that should be opened up to price competition.

Mr. C. H. Zinkel of Dynavision Limited held the view that customers' responses indicate they are suspicious of the optician who advertises prices. If the prices advertised are "significantly lower than your competition" the customers wonder how the optician can afford to sell at such prices if no one else can and they begin to wonder about quality. Most manufacturers and reputable wholesalers, according to Mr. Zinkel, have usually looked down on the price advertiser as the operator of a low quality business. Some ophthalmic dispensers feel that the price advertiser is degrading the image of professionalism that they like to project; the owner of such an operation could "get some static from his employees". Despite these remarks, Mr. Zinkel did not support the prohibition on price advertising. He considered that in the long run it was probably to the public's advantage to allow it rather than to prohibit it. In his view the existence of price advertising in ophthalmic dispensing [in Ontario] over a long period has not had any great effect.

Employment by Corporations

The only province which appears to have restricted the employment or affiliation of an ophthalmic dispenser by or with a corporation is the Province of Quebec. A dispensing optician is prohibited from practice in association with a company unless it is owned by dispensing opticians. An optician or group of opticians may practise as a company provided the company name is that of the optician or one of the group. However, a grandfather clause permits an optician to practise

as an employee or associate of a corporation that permanently employs a dispensing optician and existed before June 14, 1940, as a dispensing optician.

According to Mr. Adamson of King Optical the effect of the grandfather clause is to limit King Optical to its existing branch. Thus over time the market shares in Quebec of firms such as King Optical, Imperial and AOCO are destined to fall as overall sales grow.

A second grandfather clause in the Quebec Act relates to the operation of an ophthalmic dispensary by a retail store. A retailer who before December 1, 1971 operated an optical department managed by an optometrist is permitted to continue to operate such optical department under the management of an optometrist or a dispensing optician. There is, however, a provision in the Dispensing Opticians Code of Ethics which prohibits dispensing opticians to administer an optical centre for a retail merchant. In all of the common law provinces having ophthalmic dispensing acts, except Manitoba, the operation of an optical dispensary by a retail store is permitted, with the proviso that an ophthalmic dispenser shall be in charge and shall undertake the dispensing. The matter is not mentioned in the Manitoba Act.

Code of Ethics and Professional Misconduct

In Quebec, the Professional Code provides procedure and rules of discipline governing the professions under the overall supervision of the Professions Board. To further protect the public, each professional corporation must also pass regulations to enact a code of ethics. The code, together with the provisions respecting contraventions under each corporation's act, may become the basis for disciplinary measures. The Code of Ethics of the Order of Dispensing Opticians of Quebec sets general guidelines governing the competence of its members as well as the quality of the services to be granted clients.

Among the provisions affecting business conduct is the provision that a dispensing optician may not enter into

any contract or arrangement with any ophthalmic supplier where it might result in a conflict of interest or a limitation of his professional freedom to the detriment of clients. More specifically, the prohibitions on corporate employment or affiliation discussed above are included in the code. Solicitation for an advantage from an ophthalmologist or optician, or fee sharing are prohibited. There is no tariff setting and in this respect, the code requires only that they be reasonable and take into account the services actually rendered. But it is prohibited to agree with a client beforehand that his services will be free or that a discount will be given on the fees. Professional advertising only is allowed and the code expressly makes it a derogatory act to advertise in any other manner.

Provisions governing professional ethics may also indicate what conduct is not professional or can cover misconduct. Both may be included under the label of unprofessional conduct and so dealt with as infractions in provincial acts or regulations.

In Manitoba, although By-law No. 5 includes "infamous or unprofessional conduct" as one thing for which the Council may cancel an ophthalmic dispenser's licence, nowhere in the By-laws is the concept defined. The Saskatchewan Act gives the Transitional Governing Board the power to make regulations defining professional conduct and prescribing procedures for the investigation of complaints or allegations of professional misconduct. It provides a range of penalties for those guilty of such misconduct.

The Alberta, New Brunswick, Nova Scotia and Prince Edward Island Acts have a number of common features in their definitions of professional misconduct: the making of excessive or unreasonable charges to the public; soliciting or canvassing; advertising by prohibited means; permitting practice by non-qualified persons; offences under the Acts or Regulations; and committing an indictable offence.

Rebates

In Alberta, conduct unbecoming an ophthalmic dispenser (By-law 29(c)) includes:

Sharing with any person other than the employer of the ophthalmic dispenser the fees received from the patient.

In Quebec, the dispensing optician is prohibited from sharing fees in any manner whatsoever with an ophthalmologist, an optometrist or any other person except a dispensing optician. A pledge not to rebate to medical practitioners or optometrists is also contained in the Code of Ethics of The Ophthalmic Dispensers of Manitoba.

Although there is no ophthalmic dispensers act in British Columbia, other acts have the effect of making rebates by ophthalmic dispensers illegal in that province. The Medical Act of British Columbia (Sec. 79) forbids physicians to receive rebates:

No member of the College shall take or receive any remuneration by way of commission, discount, refund, or otherwise from any person who fills a prescription given or issued by such member or who makes or supplies appliances.

The Commission notes in passing that the Canadian Ophthalmological Society endorses the provisions of the 1970 Code of Ethics of the Canadian Medical Association which state that ethical physicians will not accept rebates; declares the acceptance by ophthalmologists of rebates or gifts from manufacturers of optical goods to be unbecoming conduct; and requires each new member to pledge himself not to practise division of fees with manufacturers or dispensers of optical goods. At its 1975 Annual Meeting, the Society adopted regulations regarding conflict of interest which contain comprehensive prohibitions of rebates from all levels of the trade in ophthalmic goods as well as regulations about rental agreements and credit arrangements between ophthalmologists and ophthalmic dispensers or other levels of the optical goods trade.

The only evidence that has been presented to the Commission with regard to rebating concerns Imperial, which had a long history of offering financial inducements to obtain referrals. According to Mr. Casson, Imperial decided

by itself to stop the practice of rebating. Imperial began to get rid of the rebating arrangements from about 1945 onwards, the basic idea being that no benefit would be paid by Imperial to anyone for patient referral. He claimed that Imperial had halted the payment of rebates to ophthalmologists in Toronto by 1950 and in smaller Ontario cities by 1954 or 1955; by 1960 there were only 12 to 16 instances of rebates in the whole of Canada. According to him, Imperial paid its last rebate to an ophthalmologist in 1972, to one on the east coast of Canada.

Referrals

Professionals reserve the right to make referrals based on their opinion as to what is best for their client. Dr. Green, a pediatric ophthalmologist in Winnipeg, said that he (more than other ophthalmologists), directed patients to particular dispensers because of their technical expertise and ability to fit children. If patients ask, he gives them a list of several dispensers who sell quality frames and are particularly good in their follow-up care. He does not tell patients to stay away from any optician, but he lets it be known that there are better ones to patronize or he indicates that he has had no experience with a particular optician, thereby suggesting that there are other dispensaries with which he has had experience. According to Mr. Casson, some ophthalmologists in Toronto refer patients who have had a cataract operation to opticians they know provide the fitting services required.

As illustrated by the evidence of Dr. Green, indirect means may be used to refer patients away from opticians who are considered to be less capable than others. Other reasons may also be present. According to Mr. Adamson, King Optical was often the object of 'negative referrals'. It was his view that the adverse remarks about his firm by ophthalmologists probably reflected the latter's assumption that advertising always leads to a lower quality of merchandise. Mr. MacLean said that it had been brought to his attention that price advertising was not in favour with the ophthalmologists in Guelph, Ontario. He expressed the belief that ophthalmologists are reluctant to refer patients to price-oriented opticians.

Referrals which are not based solely on professional opinion can shade over into situations which resemble rebates. Prescription pads or envelopes into which prescriptions are placed bearing the name and location of an optician constitute a form of "steering", as do verbal instructions such as "take the prescription downstairs".

The existence of such envelopes and their use for referrals was testified to by Dr. David Penman with respect to the City of Saskatoon. Apparently the ophthalmologist had an ownership interest in the optician's outlet which gave rise to an inquiry by the College of Physicians and Surgeons of Saskatchewan.

Mr. Isador Gliener testified to the use in Edmonton of envelopes and prescription forms bearing information intended to induce the patient to go to a particular outlet. He deposited a number of documents with the Commission consisting of prescriptions directed to particular, named optical dispensers in Edmonton and one example of a prescription order form inserted into an envelope which bore the address of an ophthalmic dispenser. Mr. Gliener testified that the majority of ophthalmologists in Edmonton directed their patients by way of written prescriptions.

Mr. Stephen Neary, a Member of the House of Assembly of Newfoundland, testified that prescription forms mentioning the trade names of a particular company were still being used by an ophthalmologist in St. John's, Newfoundland.

On the other hand, Mr. I.F. Hollenberg, President of Western Optical and affiliated companies, indicated that the use by ophthalmologists of prescription pads bearing the names of particular dispensing outlets had almost disappeared in the Lower Mainland as far as he could determine. This was the impression in Ontario also.

Testifying with respect to Canada generally, Mr. Casson indicated that in 1966 Imperial had ceased the distribution of prescription pads or referral forms bearing the names of Imperial dispensaries or those of affiliates. With regard to the referral forms bearing the names of subsidiaries or affiliates of Imperial in Edmonton, Mr. Casson said he had

advised the Edmonton dispensers against their use, but that there was some old stock which was given out to doctors who asked for it. He said, however, that he could not stop Imperial's affiliates from using such forms.

In a submission to the Commission, dated November 1975, the Canadian Ophthalmological Society set out its position on some of the above matters:

Concerning the relationship of ophthalmologists with suppliers of ophthalmic goods, COS adopted regulations re Conflict of Interest at its 1975 Annual Meeting which should remove any doubt that any of its members have in this matter. The Regulations state:

A physician practising ophthalmology, any members of his staff, or member of his family as defined by the Income Tax Act, shall not accept rebates, gifts, or favours from a manufacturer or distributor of eye glasses, contact lenses or diagnostic eye equipment or an ophthalmic dispenser.

A physician practising ophthalmology, or member of his family as defined by Income Tax Act, shall not accept credit from a manufacturer or distributor of eye glasses, contact lenses or diagnostic eye equipment or an ophthalmic dispenser, unless the terms of the credit clearly specify a reasonable time of repayment, a reasonable rate of interest on the amount outstanding at any time during the period of credit, and that the credit is in no way related to the referral of patients.

A physician practising ophthalmology or member of his family as defined by the Income Tax Act shall rent space to an ophthalmic dispenser only at a rate normal for the area, and which bears no relation to the volume of dispensing by the ophthalmic dispenser.

A physician practising ophthalmology shall rent space from a manufacturer or distributor of eye

glasses, contact lenses, or diagnostic eye equipment or an ophthalmic dispenser, only when the rent is normal for the area, and bears no relation to referral of patients.

Composition of Opticians' Boards

Considerable concern was expressed in the inquiry with respect to the influence of Imperial through provincial licensing boards. Several witnesses were of the opinion that a student optician not connected in some way with Imperial was discriminated against in the education and licensing procedures.

The interests of Imperial were heavily represented on the Board of Ophthalmic Dispensers in Ontario in the early 1970's. In 1973, for example, all members of the Board were associated in some way with Imperial and its affiliates, all but one of them as principals or shareholders in Imperial affiliates. The Registrar of the Board from 1964 to 1973 was Mr. Fred E. Dalby, who was one of the members of the executive group at Imperial. Furthermore, the Chairman of the Board of Ophthalmic Dispensers of Ontario for a number of years was Mr. Fred Shorney, whose optical dispensing business was an affiliate of Imperial through Standard. Mr. Shorney and Mr. Casson of Imperial had spent much time during the period 1959-61 drafting the former Ophthalmic Dispensers Act and the Ontario Government reportedly took Mr. Shorney's recommendations with respect to appointments to the Board. Fred Shorney Limited had become associated with Standard in 1964.

According to Mr. Adamson of King Optical, opticians not affiliated with Imperial "could not get input to the Board". Through their association, The Independent Optical Association, these opticians challenged the situation and the Government of Ontario replaced the Board of Directors by one more representative of Ontario opticianry. Mr. Adamson also expressed the opinion that a fully elected Board was susceptible to "block" control.

In Nova Scotia in 1976 the Board of Dispensing Opticians appointed by the Government consisted of five members. These were Dr. Stanton, Acting Deputy Minister of Health, an

ophthalmologist, and three opticians. One of the opticians was an officer of Eastern Optical, the other two operated outlets affiliated with Standard. These latter two, one of whom was Chairman of the Board, comprised the education committee which controlled the admission of students to the Canadian Guild dispensing course.

In 1976 the Board of Directors of the Alberta Guild of Ophthalmic Dispensers had ten members, seven of whom were associated with Imperial affiliates. These included both the President and the Registrar Secretary-Treasurer of the Board.

Of the five members appointed to the Council of the New Brunswick Guild of Dispensing Opticians under the 1976 Act, three were opticians affiliated with Imperial. They were to hold office until a new Council was elected by the New Brunswick Guild.

As noted earlier Dr. Penman, testifying in 1976, indicated that he thought that legislation providing for Boards of dispensing organizations should guard against situations similar to that in 1973 in Ontario. The Saskatchewan Act passed in 1977 provided that the Council of the Saskatchewan Ophthalmic Dispensers Association should be composed of five elected members and one or two persons appointed by the Lieutenant Governor in Council, if he considers it advisable.

The evidence did not support allegations that Imperial representation on Boards controlling admittance to education courses and licensing had resulted in discrimination against applicants or students not associated with Imperial or its affiliates. Nevertheless the suspicion of favouritism held by many independent opticians and small chains was harmful to the industry.

CHAPTER V

MARKET CONCENTRATION

The situation regarding concentration of sales of ophthalmic products varies considerably depending on the type of product and the level of production or distribution which is considered.

Manufacturing

In manufacturing, because of the importance of imports, the markets for lenses and frames must be considered to be fairly competitive, in spite of a small number of domestic manufacturers. The tariff level on ophthalmic lenses and frames has been 12 1/2 per cent in recent years. (See Table 1.)

While this level of protection was apparently sufficient for many years to allow most of Canada's need for glass lenses to be satisfied from domestic production, all of the demand for plastic lenses was met from imports. In the case of frames, the importance of design and fashion has been a major factor in making Canada heavily reliant on imports.

The situation regarding domestic production, imports, and exports of frames and lenses for 1970 is shown in the Green Book and reproduced here as Table 2. The situation in 1970 is compared with that in 1946, when Canada was less reliant on imports:

In contrast, it has been estimated that in 1946, imports of lenses and frames accounted for only 35.3 per cent of total domestic supply: imports of lenses accounting for 19.2 per cent of domestic supply of lenses and imports of frames accounting for 45.8 per cent of supply of frames. No statistics of exports in 1946 are available but they are not believed to have been large.

Thus a very considerable movement of the industry towards international specialization has occurred.

TABLE 1
CANADIAN TARIFFS ON OPHTHALMIC GOODS, MAY 1978

Tariff Item	Products	British Prefer- ential Tariff	Most Favoured Nation Tariff	General Tariff	General Prefer- ential Tariff*	Effective Date	Expiry Date**
32615-1	Manufactures of glass, n.o.p. GATT	10	20 17½	22½	% 10	26-2-37 1-1-48	
32700-1	Spectacles; eyeglasses, and ground or finished spectacle or eyeglass lenses, n.o.p.	12½	12½	30	11½	19-11-74	30-6-79
32701-1	Shapes of glass or plastic for use in the manufacture of spectacle and eyeglass lenses	10	12½	22½	8	O.C. 4-10-73	30-6-79
32705-1	Contact lenses and anterior chamber implants for the human eye	Free	Free	Free	Free	18-6-58	
32800-1	Spectacle and eyeglass frames and parts thereof, n.o.p.	12½	12½	20	10	19-11-74	30-6-79
32805-1	Parts, unfinished, for the manu- facture of spectacle and eyeglass frames	Free	5	5	Free	26-2-37	
32810-1	Parts, unfinished, for use in the manufacture of spectacle and eye- glass frames	Free	Free	5	Free	O.C. 4-10-73	31-10-80
93907-4	Plastic shapes, unfinished, light polarized, coated or not, for use in the manufacture of eyeglasses	Free	Free	30	Free	O.C. 13-7-71	28-2-81
93907-5	Plastic shapes, not further manu- factured than shaped concavely on one side, for use in the manu- facture of contact lenses	Free	Free	30	Free	O.C. 21-12-71	30-6-81

*Since July 1, 1974

SOURCES: 1) Canada, Department of National Revenue, *The Customs Tariff and Amendments with Index to Commodities, Office Consolidation.*

2) *Budget Resolutions*, April 10, 1978.

**All General Preferential Tariffs expire June 30, 1984

From the evidence, the exports of lenses consist in part of exports by Imperial of imperfect lenses not considered suitable for the Canadian market. The greatest part, however, consists of certain types of lenses which are produced especially for export, principally by AOCO and Bausch & Lomb. The Canadian manufacturers account for the greater part of lens imports, which consist largely of types which they do not manufacture themselves. In addition, some lenses are imported by smaller companies as an alternative to buying from the Canadian manufacturers.

With regard to frames, the statistics show that Canada is now largely dependent upon imports. Whereas in 1946, imports supplied less than half of the market, in 1970, they represented over 88 per cent. In the earlier years, most of the frames came from Canada and the United States and had certain patented features which were then popular. In more recent years, style has become a more important factor, and most frames are imported from Europe and Asia.¹

TABLE 2

STRUCTURE AND VALUE OF DOMESTIC SUPPLY
OF OPHTHALMIC LENSES & FRAMES, 1970

	Lenses	Frames	Total
	\$	\$	\$
Domestic Production (value of shipments)	5,228,104	1,231,222	6,459,326
Imports (finished goods)	3,766,198*	8,632,814*	12,399,012
Exports	2,348,548	117,352	2,465,900
Value of Domestic Supply	6,645,754	9,746,684	16,392,438

SOURCE: Green Book, Table II.

* Estimated.

As shown in Table 3, European countries have for many years been the principal source of imported frames. Since the late 1960's, France and Germany have supplanted the United States from its position as the leading frame supplier to Canada and purchases from Italy and Austria have grown much faster than total imports. Japan and Hong Kong supply some lower-priced frames which are not designed for the more fashion-conscious consumers.

It is likely that one of the factors contributing to increased lens imports was the introduction of additional lens sizes and lens designs. Production costs would tend to be adversely affected in plants where a full line of lenses was produced, since in many cases the machinery used is completely specialized to produce a specific type of lens. Thus, from the viewpoint of production, cylinders, spheres and most types of bifocals are separate products.

The Commission has not updated Table 2 which shows the importance of exports and imports relative to domestic production. However, it is clear from trade statistics and domestic production figures that reliance on imported frames has increased and that prior to the recent closings of the AOCO and Bausch & Lomb plants, there continued to be high volumes of lens exports and imports relative to domestic production. Imports of frames and frame parts in 1975 totalled \$18.5 million, up from \$14.9 million during the previous year. Imports of semi-finished and finished lenses were \$5.3 million and \$7.4 million in 1974 and 1975 respectively,² compared to lens exports during corresponding years of \$3.9 million and \$4.6 million.³

Events following the conclusion of Hearings by the Commission indicate that imports may come to dominate lens supply. Within a span of several months, first AOCO and then Bausch & Lomb announced that they were discontinuing lens production in Canada. High Canadian wage rates, the loss of export markets, increased imports and a general decline in the use of glass lenses were cited as reasons in the newspaper reports of the plant closings.⁴

In considering competition offered by imported lenses it is necessary to remember that a prescription can be filled with either plastic or glass lenses, and that multifocal lenses are available in a number of designs. The availability or presence of imported lenses which are of the

TABLE 3

IMPORTS OF SPECTACLES AND EYEGLASS FRAMES, BY COUNTRY OF ORIGIN, 1968-1975

	1975	1974	1973	1972	1971	1970	1969	1968
	(\$'000)							
France	5,352	4,685	4,322	2,976	1,886	1,028	747	796
West Germany	3,683	2,862	3,576	2,732	1,576	1,367	1,110	862
United States	2,833	2,188	1,510	1,526	1,542	1,630	1,245	723
Italy	2,177	1,236	1,639	1,025	796	388	169	127
Austria	1,225	510	632	364	254	187	164	126
Japan	442	387	441	360	277	234	189	167
Switzerland	277	562	137	183	51	77	101	76
Hong Kong	197	181	75	37	45	20	4	14
Spain	139	230	143	221	129	40	40	54
Others	268	359	407	346	298	300	124	62
Total	16,593	13,200	12,882	9,770	6,854	5,271	3,893	3,007

SOURCE: Statistics Canada, *Imports--Merchandise Trade*, 1968-75, Catalogue 65-203.

same material and lens design as those produced domestically would tend to exert downward pressure on prices. However, many types of imported lenses are not produced in Canada. This is true for plastic lenses and for certain multifocal lens designs. While it is possible that the importation of such lenses may exert price pressure on domestically-produced lenses, their principal importance is that they permit certain prescriptions, or demands motivated by cosmetic considerations, to be better satisfied. A certain amount of international specialization of production, practices by AOCO and Bausch & Lomb, is another factor to be considered in interpreting the value of imported lenses shown above. Since both companies appear to rely primarily on internal corporate production, gaps in their Canadian production were filled by imports. As pointed out in the Green Book, these companies were the largest importers of lenses in 1970 and there is no reason to believe that there has been any change since that time, particularly since they have discontinued domestic production.

Although the variety of lenses should be borne in mind in discussing imports, there is no doubt that domestically-produced lenses are subject to stiff foreign competition. One factor apparently increasing foreign competition is the growing popularity of plastic lenses and contact lenses which are obtaining larger shares of the total lens market. As a result the demand for glass lenses, as illustrated by United States figures, has fallen off. Between 1967 and 1972, total shipments by American lens factories grew from \$134.2 million to \$134.5 million, while the glass lens component of those shipments declined from \$122.8 million (48.3 million pairs) to \$95.8 million (39.5 million pairs).⁵ If Canadian experience is a guide, contact lens and plastic lens prices in the U. S. show a downward trend relative to glass lenses, and their sales continue to grow relative to those of glass lenses since 1972. Declines or slow growth of U. S. glass lens sales can be expected to exert competitive pressure in Canada. It also appears that a number of countries have entered into or increased production of glass lenses.

The countries of origin of imported lenses are shown in Table 4. Although lenses are included in the import statistics under "ophthalmic goods n.e.s.", the values of imported lenses, which are known for the years 1974 and 1975⁶ accounted for 72 per cent and 78 per cent,

TABLE 4

IMPORTS OF LENSES AND OTHER OPHTHALMIC PRODUCTS NOT ELSEWHERE SPECIFIED,
BY COUNTRY OF ORIGIN, 1968-1975

	1975	1974	1973	1972	1971	1970	1969	1968
	(\$'000)							
United States	7,392	5,358	4,624	2,811	2,341	1,896	2,235	1,733
France	1,034	846	671	437	358	137	122	118
Japan	435	523	370	366	115	42	62	48
West Germany	122	45	37	51	21	26	14	37
Italy	118	68	35	21	17	26	11	12
United Kingdom	96	171	114	112	91	86	21	26
Argentina	55	145	93	-	-	-	-	-
Australia	38	40	59	11	3	4	3	-
Brazil	20	47	56	15	-	-	-	-
Others	172	107	98	50	25	42	26	34
Total	9,482	7,350	6,157	3,874	2,971	2,259	2,494	2,008

SOURCE: Statistics Canada, *Imports--Merchandise Trade*, 1968-75,
Catalogue 65-203.

respectively, of that import category. Table 4 shows that the United States has been the major supplier of lenses and ophthalmic goods n.e.s., followed by France and Japan. France and Japan have grown in relative importance at the expense of the United States. In addition, countries such as Argentina, Australia and Brazil appeared as supply sources during the last few years. The growth of imports from France undoubtedly reflects the importance of that country as a supplier of single-vision plastic lenses and progressive-power lenses.

Laboratories

As a result of inadequate information, the market shares of the larger ophthalmic products firms were a point of considerable contention during the Hearings. Of particular importance was the gap in information at the dispensing level. Following preliminary discussions with a number of firms in the industry, the Commission undertook a questionnaire survey in order to clarify this important area. Laboratory and wholesale suppliers of conventional and contact lenses to dispensers were asked to divide their lens sales by location and category of customer - that is, opticians, optometrists and, in the case of contact lenses, ophthalmologists. (In a few rural areas medical doctors dispense conventional lenses as well.) In addition, a list of dispensers affiliated with Imperial or AOCO was used to segregate the sales to those outlets.

The survey permitted market share estimates to be obtained at both the dispensing and laboratory levels. The purchases of lenses by dispensers are taken as being closely correlated with their sales of ophthalmic products. For laboratories, market concentration figures on lens sales can be prepared directly for that part of their business; i.e., exclusive of frame and instrument sales. The survey results for conventional lenses appear in Tables 5, 6 and 7.

Table 5 shows lens sales by province and for the country as a whole. The advantage of provincial boundaries for our analysis is that they provide workable geographical areas for purposes of organizing and discussing share-of-sales information. Generally, the greater part of a laboratory's sales are made close to home - that is, in the

city or surrounding area where the laboratory is located. This situation holds even for several laboratories which make sales throughout the country. Proximity to a laboratory is undoubtedly important to the speed of service and ease of communication available to a customer. Where the dispenser and laboratory are in the same city, telephone communication and messenger service are the norm. The cost of these methods of communication and delivery rises with distance and as the density of available customers falls. Dispensers located in smaller communities who are not eligible for messenger service from the closest laboratories presumably do not sacrifice much by way of speed of service by dealing with laboratories some distance away.

Stock lenses and uncut lenses are both sold in the shape they had when they left the factory. The basic difference is that only single-vision stock lenses are produced at the lower range of prescription values whereas uncut single-vision and multifocal lenses are generally available from laboratories in a wide range of prescription values. The dispenser who purchases stock lenses assumes the inventory cost of holding a supply of lenses to meet his customers' needs. Uncut lenses are sold by laboratories at prescription prices, less the charge for edging and assembling the spectacles and are purchased by the dispenser as required for prescriptions.

The several ways that lenses are sold - either as stock lenses, in uncut form, or after being edged and inserted into or mounted on a frame - affects the interpretation of the tables in various degrees. The impression obtained in tabulating the questionnaire returns was that a good part of the long-distance shipments from laboratories consisted of stock and uncut lenses. The form in which lenses are purchased is of some importance in the succeeding section where market shares in dispensing are derived from the value of lens purchases by dispensers.

Included in Tables 5, 6 and 7 are a small volume of stock lens sales by frame and lens wholesalers. Stock lens sales entail solely a distribution function on the part of laboratories. Few of the frame wholesalers sell stock lenses, and then on a sporadic basis. Stock and uncut lenses are bought by dispensers who do their own finishing or bench work. It must be assumed that uncut lenses are bought primarily in the range of prescription values which

TABLE 5

REPORTED AND ESTIMATED LENS SALES BY LABORATORIES
TO DISPENSING OUTLETS, BY PROVINCE, 1975

	Imperial ^a Affiliates \$	AOCO ^{b,c} Outlets \$	Independent Opticians \$	Optom- etrists ^d \$	Total \$
<u>British Columbia</u>					
Imperial	1,956,272	-	417,767	1,200,652	3,574,691
Hudson*	54,313	-	265,667	206,151	526,131
AOCO	5,944	157,271	77,295	112,448	352,958
Bausch & Lomb	10,938	6,158	219,620	79,628	316,344
Other laboratories	25	-	4,871	85,004	89,900
Integrated lab.- dispensers	-	-	1,111,482	-	1,111,482
Total	2,027,492	163,429	2,096,702	1,683,883	5,971,506
<u>Alberta</u>					
Imperial	1,558,117	12,546	219,367	1,036,470	2,826,500
Hudson*	32,508	1,066	202,307	299,399	535,280
AOCO	907	95,888	30,780	110,052	237,627
Other laboratories	62,870	504	448,033	562,021	1,073,428
Total	1,654,402	110,004	900,487	2,007,942	4,672,835
<u>Saskatchewan</u>					
Imperial	861,525	-	220,647	741,192	1,823,364
Bausch & Lomb	13,511	-	223,164	369,805	606,480
AOCO	26	4,618	36,283	235,670	276,597
Other laboratories	-	-	48,566	35,993	84,559
Total	875,062	4,618	528,660	1,382,660	2,791,000
<u>Manitoba</u>					
Imperial	318,244	10,904	144,404	487,581	961,133
AOCO	71	136,130	64,452	101,498	302,151
Central Optical, Wpg.	3,562	19,002	132,894	221,686	377,144
Kahn	-	-	36,063	171,608	207,671
Other laboratories	1,030	1,063	460,399 ^e	61,142	523,634
Total	322,907	167,099	838,212	1,043,515	2,371,733
<u>Ontario^g</u>					
Imperial	7,053,525	37,840	989,982	2,061,201	10,142,548
Argus and Bingham*	102,497	-	48,852	248,264	399,613
AOCO	7,896	845,614	97,181	360,301	1,310,992
Bausch & Lomb	173,640	50,855	417,407	878,159	1,520,061
K & W	490	-	130,216	1,084,350	1,215,056
Kahn	22,374	27,671	60,593	816,569	927,207
Other laboratories	9,951	2,528	1,308,867	1,228,495	2,549,841
Integrated lab.- dispensers	-	-	1,069,483	-	1,069,483
Total	7,370,373	964,508	4,122,581	6,677,339	19,134,801
<u>Quebec^g</u>					
Imperial	411,715	1,981	364,322	1,279,338	2,057,356
Jaloptic*	-	-	170,597	113,731	284,328
AOCO	458	98,350	90,398	370,892	560,098
L'Optique Richelieu	-	538	31,142 ^f	1,171,972	1,203,652
Other laboratories	113,527	21,082	2,710,257 ^f	3,660,563	6,505,429
Total	525,700	121,951	3,366,716	6,596,496	10,610,863
<u>New Brunswick</u>					
Imperial	296,170	46,080	30,312	132,847	505,409
AOCO	780	28,093	19,023	135,978	183,874
Eastern	843	-	36,999	23,323	61,165
Other laboratories	34	123	67,327	104,458	171,942
Total	297,827	74,296	153,661	396,606	922,390
<u>Nova Scotia</u>					
Eastern	9,973	6	378,932	346,106	735,017
Imperial	478,540	-	59,354	124,846	662,740
AOCO	10	20,268	26,873	19,868	67,019
Other laboratories	1,807	24	97,502	134,629	233,962
Total	490,330	20,298	562,661	625,449	1,698,738

* Firms in which Imperial has partial ownership have been identified by a star.

TABLE 5 - Continued

	Imperial ^a Affiliates	AOCO ^{b,c} Outlets	Independent Opticians	Optom- etrists ^d	Total
	\$	\$	\$	\$	\$
Prince Edward Island					
Imperial	40,923	2,827	10,574	68,390	122,714
Eastern	-	998	24,306	260	25,564
AOCO	-	9,291	6,504	5,522	21,317
Other laboratories	-	-	4,355	-	4,355
Total	40,923	13,116	45,739	74,172	173,950
Newfoundland					
Imperial	337,600	-	28,818	44,739	411,157
Eastern	-	-	59,956	261,491	321,447
AOCO	-	-	14,547	3,741	18,288
Other laboratories	-	-	108,473	44,939	153,412
Total	337,600	-	211,794	354,910	904,304
CANADA ^h					
Imperial	13,312,631	112,178	2,485,547	7,177,256	23,087,612
Hudson*	86,821	1,066	467,974	505,550	1,061,411
Argus and Bingham*	102,497	-	48,852	248,264	399,613
Jaloptic*	-	-	170,597	113,731	284,328
AOCO	16,092	1,395,523	463,336	1,455,970	3,330,921
Bausch & Lomb	208,818	59,802	1,065,126	1,670,616	3,004,362
Kahn	59,968	28,586	181,714	1,407,869	1,678,137
Integrated lab.- dispensers	-	-	2,879,229	-	2,879,229
Other laboratories	155,789	42,164	5,064,838	8,263,716	13,526,507
Total	13,942,616	1,639,319	12,827,213	20,842,972	49,252,120

SOURCE: Commission's questionnaire survey.

- ^a Includes direct sales to consumers by Imperial and Bingham, and sales made by Eaton's and Peoples Jewellers' outlets operated by Imperial under management contract. Direct sales by Imperial and the retail value of sales reported by Stewart N. King were multiplied by .3111 to obtain an estimate of the wholesale Rx lens value. The resulting values were incorporated in all tables.
- ^b Promotion expenditures by AOCO that took the form of gifts of spectacles incorporating a prescription were included with AOCO's retail sales. This accounts for the small value of sales by AOCO outlets in some locations.
- ^c Sales by AOCO laboratories to AOCO outlets account for approximately 85 per cent of the purchase of lenses by AOCO outlets. Mr. C. Bergmann, president of AOCO, stated that AOCO outlets acquired about 20 to 25 per cent of their lenses from non-AOCO laboratories. The discrepancy is probably explained by the failure of some reporting firms to distinguish between sales to AOCO laboratories and sales to AOCO dispensing outlets. Thus the volume of AOCO dispensing outlets' lens purchases is, on average, understated by about 5 to 10 per cent in Tables 5, 6 and 7.
- ^d Sales to medical doctors, occasionally reported in smaller population centres, were included with sales to optometrists.
- ^e Includes transfers within integrated laboratory-dispensers. See notes "f" and "g" to Table 6.
- ^f Includes transfers within integrated laboratory-dispensers. See note "i" to Table 6.
- ^g Sales for the Hull and Gatineau areas are included with the Ontario figures because they are part of the Ottawa Census Metropolitan Area and the provincial total was calculated from the locations used in Table 6.
- ^h Information for Bausch & Lomb, Kahn and integrated laboratory-dispensers was not separately shown in a number of provinces. Where this occurred their sales were included with "other laboratories". As a result, the Canada-wide totals for those companies and for "other laboratories" cannot be derived by adding provincial figures in Table 5.

TABLE 6

ESTIMATED LENS PURCHASES BY DISPENSING OUTLETS, BY LOCATION, 1975

Location ^a	Imperial ^b Affiliates	AOCO ^{c,d} Outlets	Independent Opticians	Optom- etrists ^e	Total
Kamloops	79,467	-	93,748	25,951	199,166
Vancouver	952,488	108,335	1,440,657	730,590	3,232,070
Victoria	390,082	54,952	147,111	149,161	741,306
Other British Columbia and Yukon	605,455	142	415,186	778,181	1,798,964
Total	2,027,492	163,429	2,096,702	1,683,883	5,971,506
Calgary	613,794	50,925	483,426	410,626	1,558,771
Edmonton	727,449	58,154	170,482	678,273	1,634,358
Medicine Hat	52,297	-	72,049	15,059	139,405
Other Alberta	260,862	925	174,530	903,974	1,340,291
Total	1,654,402	110,004	900,487	2,007,932	4,672,825
Regina	202,887	659	173,232	186,847	563,625
Saskatoon	275,942	3,959	109,238	359,953	749,092
Other Saskatchewan and Northwest Territories	396,233	-	246,190	835,917	1,478,340
Total	875,062	4,618	528,660	1,382,717	2,791,057
Brandon	80,320	20,643	53,703	70,420	225,086
Winnipeg	242,399	146,456	689,651	533,097	1,611,603
Other Manitoba	188	-	94,857	440,649	535,694
Total	322,907	167,099	838,211	1,044,166	2,372,383
Brantford	60,197	-	95,997	136,651	292,845
Guelph	145,967	11,415	-	77,809	235,191
Hamilton	508,549	75,852	274,002	386,922	1,245,325
Kingston	208,334	-	28,513	16,236	253,083
Kitchener	134,766	23,717	149,971	298,507	606,961
London	255,432	28,104	212,092	247,042	742,670
Oshawa	143,313	53,801	68,417	66,196	331,727
Ottawa	458,940	57,484	581,828	432,859	1,531,111
Peterborough	152,435	30,311	21,404	109,842	313,992
St. Catharines	442,498	40,698	37,920	127,731	648,847
Sarnia	58,093	25,382	20,222	202,109	305,806
Sault Ste. Marie	106,607	6,833	60,872	108,271	282,583
Sudbury	110,045	828	92,269	214,064	417,206
Thunder Bay	440,270	-	-	66,351	506,621
Toronto	2,788,684	404,723	1,774,020	1,209,202	6,176,629
Windsor	314,617	40,267	69,515	68,752	493,151
Other Ontario	1,041,626	165,093	548,390	2,870,768	4,625,877
Total	7,370,373	964,508	4,035,432	6,639,312	19,009,625
Chicoutimi	-	-	57,063	29,704	86,767
Montreal	335,888	64,945	1,460,279	2,684,941	4,546,053
Quebec	91,576	55,813	583,192	370,113	1,100,694
Shawinigan	-	-	-	78,164	78,164
Sherbrooke	20,888	-	32,987	103,423	157,298
Trois-Rivières	41,724	355	81,487	175,886	299,452
Other Quebec	35,624	838	324,242	2,288,790	2,649,494
Total	525,700	121,951	2,539,250	5,731,021	8,917,922
Moncton	89,931	9,822	50,082	65,698	215,533
Saint John	154,925	-	15,641	30,219	200,785
Other New Brunswick	52,971	64,474	88,057	297,210	502,712
Total	297,827	74,296	153,780	393,127	919,030
Halifax	163,970	13,716	295,358	144,555	617,599
Sydney	30,298	6,558	29,429	62,848	129,133
Other Nova Scotia	296,062	24	237,948	410,934	944,968
Total	490,330	20,298	562,735	618,337	1,691,700
Charlottetown	13,956	-	42,701	35,603	92,260
Other Prince Edward Island	26,967	13,116	-	41,607	81,690
Total	40,923	13,116	42,701	77,210	173,950
St. John's	249,408	-	39,971	113,429	402,808
Other Newfoundland	88,192	-	171,823	241,481	501,496
Total	337,600	-	211,794	354,910	904,304

SOURCE: Commission's questionnaire survey.

TABLE 6 - Continued

- ^a The specific locations (as opposed to the catch-all rest-of-province designations) are the Statistics Canada components for Census Metropolitan Areas used in the 1976 quinquennial census and the Census Agglomerations used in the 1971 census. The 1976 Census Agglomerations components were not available when processing of the questionnaire returns was started.
- ^b Includes direct sales to consumers by Imperial and Bingham, and sales made by Eaton's and Peoples Jewellers' outlets operated by Imperial under management contract. Direct sales by Imperial and the retail value of sales reported by Stewart N. King were multiplied by .3111 to obtain an estimate of the wholesale Rx lens value. The resulting values were incorporated in all tables.
- ^c Promotion expenditures by AOCO that took the form of gifts of spectacles incorporating a prescription were included with AOCO's retail sales. This accounts for the small value of sales by AOCO outlets in some locations.
- ^d Sales by AOCO laboratories to AOCO outlets account for approximately 85 per cent of the purchases of lenses by AOCO outlets. Mr. C. Bergmann, president of AOCO, stated that AOCO outlets acquired about 20 to 25 per cent of their lenses from non-AOCO laboratories. The discrepancy is probably explained by the failure of some reporting firms to distinguish between sales to AOCO laboratories and sales to AOCO dispensing outlets. Thus the volume of AOCO dispensing outlets' lens purchases is, on average, understated by about 5 to 10 per cent in Tables 5, 6 and 7.
- ^e Sales to medical doctors, occasionally reported in some locations, were included with sales to optometrists.
- ^f Between 20 and 30 per cent of lens purchases by dispensing outlets consist of transfers within laboratory-dispenser firms.
- ^g Over 90 per cent of lens purchases by dispensing outlets consist of transfers within laboratory-dispenser firm.
- ^h Estimated Rx and Rx equivalent lens purchases by independent opticians were less than \$20,000. Their purchases have been included with those by optometrists.
- ⁱ Between 50 and 60 per cent of lens purchases by dispensing outlets consist of transfers within laboratory-dispenser firm.
- ^j Several laboratories in Quebec failed to allocate purchases from them by location. The information in these returns is included in Table 5 but not in the tables that show lens purchases by location and there is thus a difference of 1,692,944 in total lens purchases by dispensing outlets in Quebec between Table 5 and Table 6; this shortfall is carried over in magnified form to Table 7 in the computation of Rx equivalent lens purchases. This shortfall has little significance in interpreting Imperial's market shares in Quebec locations because its market shares are at most modest in all locations. If the breakdown were available it would serve to reduce Imperial's market shares.

TABLE 7

ESTIMATED Rx and Rx EQUIVALENT LENS PURCHASES
BY DISPENSING OUTLETS, BY LOCATION, 1975*

Location ^a	Imperial ^b Affiliates	AOCO ^{c,d} Outlets	Independent Opticians	Optom- etrists ^e	Total
Kamloops	86,064	-	134,438	26,373	246,875
Vancouver	1,049,748	108,372	1,585,477	801,476	3,545,073
Victoria	429,438	55,012	149,794	164,679	798,923
Other British Columbia and Yukon	658,723	142	485,909	881,404	2,026,178
Total	2,223,973	163,526	2,355,618	1,873,932	6,617,049
Calgary	699,428	44,535	532,592	432,186	1,708,741
Edmonton	837,531	61,306	207,971	772,428	1,879,236
Medicine Hat	59,877	-	83,790	15,102	158,769
Other Alberta	300,672	-	344,750	992,015	1,637,437
Total	1,897,508	105,841	1,169,103	2,211,731	5,384,183
Regina	233,363	659	215,494	191,902	641,418
Saskatoon	318,323	3,959	127,607	428,856	878,745
Other Saskatchewan and Northwest Territories	448,330	-	290,842	888,475	1,627,647
Total	1,000,016	4,618	633,943	1,509,233	3,147,810
Brandon	92,644	20,533	64,210	73,544	250,931
Winnipeg	279,073	158,039	1,035,949	568,437	2,041,498
Other Manitoba	555	-	96,497	454,664	551,716
Total	372,272	178,572	1,196,656	1,096,645	2,844,145
Brantford	62,594	-	161,359	184,648	408,601
Guelph	161,743	11,415	-	85,016	258,174
Hamilton	569,495	75,881	325,786	429,159	1,400,321
Kingston	228,955	-	30,330	17,763	277,048
Kitchener	149,276	23,717	161,639	308,749	643,381
London	278,727	28,079	220,158	256,360	783,324
Oshawa	153,500	53,801	71,410	70,591	349,302
Ottawa	583,140	57,484	847,331	440,559	1,928,514
Peterborough	167,399	30,346	22,180	121,671	341,596
St. Catharines	458,031	40,698	38,569	138,786	676,084
Sarnia	58,093	25,382	20,695	205,648	309,818
Sault Ste. Marie	117,474	6,968	67,707	114,950	307,099
Sudbury	119,755	828	99,805	254,292	474,680
Thunder Bay	488,704	-	-	72,109	560,813
Toronto	3,234,390	406,179	2,311,368	1,375,939	7,327,876
Windsor	330,833	40,267	92,228	77,429	540,757
Other Ontario	1,141,644	165,431	718,245	3,162,144	5,187,464
Total	8,303,753	966,476	5,188,810	7,315,813	21,774,852
Chicoutimi	-	-	64,807	38,240	103,047
Montreal	408,245	76,081	2,193,337	3,089,525	5,767,188
Quebec	106,184	55,895	701,027	404,811	1,267,917
Shawinigan	-	-	-	79,011	79,011
Sherbrooke	23,534	-	43,956	114,359	181,849
Trois-Rivières	47,964	355	85,124	178,762	312,205
Other Québec	40,951	838	379,431	2,358,688	2,779,908
Total ^j	626,878	133,169	3,467,682	6,263,396	10,491,125
Moncton	107,023	9,847	129,794	71,636	318,300
Saint John	209,915	-	32,296	31,625	273,836
Other New Brunswick	58,277	64,474	154,184	304,980	581,915
Total	375,215	74,321	316,274	408,241	1,174,051
Halifax	194,231	13,716	403,802	153,367	765,116
Sydney	30,298	6,568	75,685	63,176	175,727
Other Nova Scotia	300,511	24	583,403	415,733	1,299,671
Total	525,040	20,308	1,062,890	632,276	2,240,514
Charlottetown	13,956	-	102,492	35,603	152,051
Other Prince Edward Island	27,293	14,818	-	47,434	89,545
Total	41,249	14,818	102,492	83,037	241,596
St. John's	256,227	-	146,367	117,260	519,854
Other Newfoundland	88,192	-	206,272	242,133	536,597
Total	344,419	-	352,639	359,393	1,056,451

SOURCE: Commission's questionnaire survey.

* The footnotes to this table correspond exactly to those of Table 6.

are not available as stock lenses. There is generally only a two-dollar difference between the price of a pair of uncut lenses and those inserted in a frame, compared to a difference of more than twice that amount between stock lenses and lower-power prescription lenses inserted in a frame. Several of the smaller laboratories in Montreal do not sell frames and sell only uncut lenses. A dispenser who deals with a laboratory that does not have the frame purchased by a customer can either send the necessary frame to the laboratory so that the lenses can be inserted, or the dispenser can perform this function if he is so equipped.

Four companies - Imperial, AOCO, Bausch & Lomb, and Kahn - operate chains of laboratories in all or a number of provinces. For the country as a whole, Imperial accounted for roughly 50 per cent of lens sales to dispensers, with AOCO, closely followed by Bausch & Lomb, a very distant second with about 6 per cent of the total. The significance of national sales figures lies in the advantages to a firm such as Imperial as a buyer; e.g., obtaining volume discounts or exclusive distributorships from manufacturers, a subject discussed in Chapter VI.

Imperial and AOCO are integrated forward to retail dispensing outlets, 54 per cent and 42 per cent of the lens sales by their respective laboratories being made to their own retail outlets. In addition, numerous smaller companies operate both dispensing outlets and laboratories. One group of these companies has been identified as "integrated laboratory-dispensers". They are distinguished by the fact that their laboratories serve their own dispensing outlets exclusively, or virtually so. A second group of laboratories is, like Imperial and AOCO, in active competition for customers as well as operating dispensing outlets. A third type of vertical integration exists where dispensers hold share ownership in a laboratory. Only one such case has been placed on the record, that of L'Optique Richelieu, most of whose shares are held by a number of optometrists. One of the important determinants of a laboratory's sales, and for integrated laboratory-dispensers the sole determinant, is the volume of purchases by affiliated dispensers. By the same token, the volume of sales available to any laboratory is reduced by the tied sales of other laboratories.

A provision which Imperial Optical Company or Standard Optical Company wrote into most of their agreements with affiliated companies in the dispensing field was a

requirement that the affiliate buy 85 per cent of its material requirements from Imperial Optical. This requirement was not universal: testimony indicates that some of the agreements specified 80 or 75 per cent, although Imperial apparently tried to persuade all affiliating dispensers to agree to the 85 per cent rule providing that Imperial's quality and service were satisfactory to them. The mandatory purchase requirement was fixed at 85 per cent rather than 100 per cent in order to give affiliated dispensers leeway to buy such special types or styles of frame as they might require to serve their customers. It was understood that if Imperial were unable to meet competitive offerings, the dispenser would be free to buy from other sources. Although testimony indicates that Imperial did not enforce the 85 per cent rule in the sense of suing or threatening to sue, and although Imperial's officers testified that Imperial had to make an effort to sell its goods to its retail affiliates despite the provision, a former employee of Imperial indicated that the 85 per cent rule was an important consideration to Imperial's management. Monthly statements prepared for each retail subsidiary or affiliate of Imperial indicated on their face the percentage of the dispenser's purchases from Imperial for the monthly period and for the year to date. If the percentage slipped below 85 per cent, Imperial's management discussed methods of regaining the 85 per cent level. According to the former employee, 85 per cent was not a target figure but rather a pre-set minimum figure which was expected to be met; if it was not, corrective action was suggested and rewards were sometimes offered to get the figure above the 85 per cent level. The former employee said that the 85 per cent provision applied to every retail outlet of Imperial that he had had anything to do with.

Table 5 shows that in 1975 Imperial's dispensing affiliates and subsidiaries purchased 95.5 per cent of their lens requirements from Imperial. No attempt has been made to separate the outlets which are owned by Imperial or operated by them, (e.g., dispensing outlets in Eaton's stores in Ontario) from those of affiliated dispensers. The percentage of purchases by the former would presumably be higher than those over which Imperial has less direct control.

AOCO's dispensing outlets are expected to meet their requirements from AOCO laboratories where this is possible. Table 5 shows that 85 per cent of the lens

requirements of AOCO's dispensing outlets were met by AOCO's laboratories. This figure is somewhat higher than Mr. Bergmann's (the president of AOCO), which was of the order of 75 to 80 per cent. With regard to frames, all purchasing for the dispensing outlets is done centrally by AOCO.

The national sales figures discussed above are reflected in the provincial division of sales. Imperial was the only company with a large share of sales in every province and in all cases, save for that of Nova Scotia, held the largest share. AOCO exceeded 10 per cent in only three provinces, with approximately 13 per cent in Manitoba, 19 per cent in New Brunswick and 12 per cent in Prince Edward Island. In many provinces the runner-up to Imperial operated only regionally.

Imperial's share of laboratory lens sales and the share of lens purchases held by its dispensing outlets are shown by province in tabular form below.

Province	Sales by Laboratories	Purchases by Dispensing Outlets
	%	%
British Columbia	68.7	34.0
Alberta	71.9	35.4
Saskatchewan	65.3	31.4
Manitoba	40.5	13.6
Ontario	55.1	38.5
Quebec	22.1	5.0
New Brunswick	54.8	32.3
Nova Scotia	39.0	28.9
Prince Edward Island	70.5	23.5
Newfoundland	45.5	37.3

SOURCES: Tables 5 and 6.

While there is no strict correspondence between the share of laboratory and the share of dispensing sales, the latter appears as an important underpinning of the laboratories' positions. This conclusion is somewhat strengthened if integrated laboratory-dispensers are excluded. It can be

argued that they should be since the competition they offer occurs at the dispensing level. When this adjustment is made, Imperial's share of laboratory sales rises to 58.4 per cent in Ontario and 84.4 per cent in British Columbia. Similar calculations (the figures for which are not shown for reasons of confidentiality) show a percentage increase of about five percentage points in Manitoba and one percentage point in Quebec.

While forward vertical integration provides an assured market, a loss of laboratory business may result in that some customers resent "dual distribution" - that is where the firms which supply them also compete against them.

In addition to the 108 laboratories owned and operated by Imperial, it has partial ownership of three laboratory firms and a frame and lens wholesaler.* These firms are separately shown in Table 5 and have been identified by a star. It cannot be assumed that dispensers are aware of these ownership connections.

The relationship between dispensing and laboratory sales for Imperial is most direct where dispensaries are physically attached to the laboratory. Of the 108 laboratories operated by Imperial at the time of public hearings, a total of 51 did dispensing. It is reasonable to assume that the economic viability of some of these laboratories in smaller centres was dependent on this source of business, with personnel performing a dual function.

The 108 laboratories are located in 83 separate cities and towns.⁷ This widespread network provides Imperial with representation in most population centres of any size, except in Quebec where it has laboratories in Quebec City and Montreal. To gain an appreciation of the coverage provided by the Imperial laboratories, it is necessary to consider their service offerings. There are 40 surfacing laboratories located in 34 centres. Thus in the many generally smaller locations where only finishing facilities are provided, the service offered to dispensers may not be much different from that which dispensers who choose to do their own edging can provide for themselves. This does not

* H & M Optical Company Limited, a fourth small Imperial affiliate, is not included.

take account of the frame wholesaling activities of the edging laboratories. In addition, there may be differences between the number of lens powers a single dispenser can afford to stock in comparison with an edging laboratory serving several customers. For prescriptions which require surfacing work the turnaround time may be no better or worse than that available from a more distant laboratory. What the local edging laboratory would seem to provide is easy communication and delivery, even though waiting time may be just as long. (Other services, such as heat hardening of lenses and tinting are also relevant in considering service offerings.)

In many locations the volume of sales is insufficient to support more than a single laboratory and dispensers have a choice of dealing with the local laboratory or relying on the communication and delivery systems offered by more distant firms. In Prince Edward Island, for example, the only laboratories on the island, finishing operations in Charlottetown and Summerside, are operated by Imperial, which may account for the wide discrepancy between Imperial's share of dispensing and share of laboratory sales in that province.

Imperial also operates all six laboratories in Newfoundland. Each of the laboratories engages in dispensing and accounts for most of Imperial's dispensing sales. However, in spite of being the sole suppliers of laboratory services located in Newfoundland, Imperial enjoys little success beyond the business created through its dispensaries. There is a sharp break from the general, but by no means universal, pattern found throughout most of the country of customers dealing with laboratories close to home. Eastern Optical Laboratories Ltd., a company operating out of Halifax, is by far the most successful of the mainland companies, holding about 57 per cent of the dispensing sales not tied to Imperial laboratories. However, one large-volume dispenser, Mr. P. L. Sudderdean of Grand Falls, a community which does not have an Imperial laboratory, relied on two Montreal firms; on one for lenses and on the other for frames. This dispenser stated that his choice of laboratories was the result, on the one hand, of a dislike for Imperial and, on the other hand, of the lower prices and good service available from the Montreal laboratory. Mr. Sudderdean's case might be considered special on two counts - there is no laboratory in Grand Falls and his operation was the sole source of prescriptions, apart from those of a physician

who had practised in Grand Falls for a time. The absence of competition might allow Mr. Sudderdean the luxury of choice not available to a firm in a more competitive environment.

Mr. Sudderdean's circumstances do not apply to a city like St. John's where there are two Imperial laboratories and a number of opticians and optometrists. A question raised is whether the seeming ease with which dispensers deal with a laboratory some distance away indicates that geographic market areas are broader than elsewhere across the country. The success of Eastern throughout the Atlantic provinces (in Nova Scotia and Newfoundland in particular) shows that a laboratory can attract customers from a wide area in competition with local laboratories. Unfortunately the extraordinary success of Eastern was not discussed during the Hearings (apart from some complimentary statements about the quality of Eastern's work) and thus it is not known whether Eastern's position represents circumstances particular to that company and region or those which are likely to be repeated elsewhere.

In New Brunswick many of the dispensers in the northern part of the province are served by laboratories in Quebec, which account for the major part of sales by "Other Laboratories". Even after allowing for this fact, the situation is similar to that found throughout the Atlantic Provinces where a small number of firms account for the greater part of sales.

Quebec has the largest number of firms in the laboratory sector, with a total of 25. This is probably explained by the limited degree of vertical integration between laboratories and dispensers. One of the distinguishing features of ophthalmic dispensing in Quebec is that optometrists play a far more important role than in other parts of the country, with few of them employed by commercial establishments. Combined with the relative absence of vertical integration is the existence of a large total sales volume, particularly in the Montreal area.⁸

The importance of vertical integration to the size of the free market is illustrated by comparing Toronto and Montreal in Table 6. Although total lens purchases in Toronto are \$6,176,629 compared with \$4,546,053 in Montreal, the size rankings are reversed after purchases by Imperial and AOCO outlets are subtracted from the total: now it is Toronto with \$2,983,222 and Montreal with \$4,145,220. The

difference in size of the untied markets in favour of Montreal is even greater if integrated laboratory-dispenser sales are allowed for, as well as the fact that Imperial affiliates in Montreal pursue a much more independent course in their buying than do affiliates in other parts of the country.

There are numerous population centres in Ontario of sufficient size to support one or more laboratories and Imperial is represented in most of them. As shown in Table 5, Imperial has 41 laboratories located in 25 population centres. Although only nine of these laboratories offer surfacing, this may make little difference to the speed of service in many locations because distances between edging and finishing laboratories (sometimes referred to as "bench" laboratories) and surfacing laboratories are often short. For instance, Imperial has eight bench laboratories in Metropolitan Toronto served by its central surfacing laboratory. Similarly, in St. Catharines Imperial has six bench operations and a single surfacing laboratory. Twenty-one of these laboratories dispense. There is no discernible pattern to the geographic distribution of these laboratories. Each of the seven laboratories in the St. Catharines' metropolitan area (which consists of Niagara-on-the-Lake, Niagara Falls, St. Catharines and Welland) dispenses, yet Imperial has many bench laboratories in other locations which do not.

Imperial's share of laboratory lens sales in Ontario is 55 per cent. More significance is to be attached to a large share of sales in an area consisting of many large markets, such as Ontario, than in one with relatively small markets which are incapable of supporting many firms, as for instance New Brunswick, where Imperial's share is about the same as in Ontario. Imperial's share of sales is, in part, directly based on the large volume of assured business from its dispensing outlets which, in turn, makes possible the large network of laboratories throughout the province that attract the business of independent dispensers. As discussed earlier, the number of competing laboratories is influenced by the size of the untied market. In the 16 largest population centres in Ontario shown in Table 6, Imperial's share of dispensing sales (as measured by lens purchases) ranged from 19 per cent to 87 per cent, with the median at about 40 per cent.

Imperial accounts for very large shares of laboratory lens sales throughout the three most western provinces.

Its share in Manitoba (40.5 per cent) is more modest. The concentration of population in Winnipeg and the absence of many other population centres results in most of the laboratories locating in Winnipeg, where there are five laboratory firms in addition to Imperial. One of these is the integrated laboratory-dispenser, Stewart N. King, which is the largest dispenser in the city.

Saskatchewan, Alberta and British Columbia are blanketed by Imperial laboratories, a large percentage of which are surfacing laboratories. Of the 16 British Columbia laboratories, nine dispense, none does in Alberta and only one in Saskatchewan. The reason for this sharp difference was not discussed during the Hearings. One possible explanation is that optometrists do a smaller share of the dispensing in British Columbia, even outside the larger metropolitan areas. The absence of legislation governing ophthalmic dispensing in British Columbia facilitates dispensing from laboratories. This is obviously not a sufficient condition, however, since the same circumstance has had little effect in Saskatchewan prior to May 7, 1977, and ophthalmic dispensing is carried out from a large number of laboratories in Nova Scotia and Ontario which both have ophthalmic dispensing Acts.

Vertical integration by Imperial and others has greatly restricted the size of the market available to would-be entrants in Metropolitan Vancouver. Two laboratory-dispensers, London Drugs Optical and Ebert Howe & Associates, have combined sales which are almost as large as those of Imperial's affiliates. The combined effect of intra-company transfers or sales within Imperial, AOCO, and the integrated laboratory-dispensers is that about \$1.9 million lens sales out of the total lens sales of \$3.2 million are tied.

According to Mr. Bergmann, President of AOCO, there are extensive economies of scale in laboratories resulting from automation and specialization of operations, and a smoothing out of fluctuations in demand. Large mail-order houses in the United States were described as offering lower prices because of their larger volumes; figures of 2,000 to 3,000 prescriptions per day were mentioned. These are unusually large laboratories, even for the United States. For example, a fair-volume American Optical laboratory might fill 1,000 to 2,000 prescriptions per week, with large safety prescription laboratories doing perhaps twice that volume.

The largest laboratory in Canada is probably Imperial's central surfacing laboratory in Toronto. Here the plastic surfacing section turns out 700 to 800 prescriptions per day. In contrast, the fair-size Imperial laboratory in Edmonton fills about 240 prescriptions per day, divided between glass (200 prescriptions approximately) and plastic. Most Canadian laboratories are smaller than the Edmonton laboratory.

One reason given by Mr. Casson for the centralization of operations is that this allowed more efficient use of scarce expertise. (This is one among many specific sources of economies of scale which entail intensive usage of specialized resources.)

Beyond Mr. Bergmann's reference to the lower prices charged by the giant mail-order laboratories in the United States, the Commission has not received any information on the relationship between laboratory size and unit costs. The existence of many small surfacing laboratories in Quebec, which offers a large "untied" market, along with lower prices in Quebec than in other areas, suggests that either unit costs fall very slowly with size or the organization of the Canadian industry is such that prevailing laboratory prices have not been much affected by the cost savings available from operating at large scale. While the first-mentioned possibility cannot be ruled out, the overall structure of the industry, with laboratories in both large and small communities, is not designed to take advantage of economies of scale. However, the centralization of certain operations by Imperial, and to some extent by AOCO, should permit the realization of economies of scale while maintaining whatever marketing advantages accrue from local customer contact.

Dispensing

From the viewpoint of a laboratory the business supplied by an optometrist is no different than that supplied by an optician. Thus in discussing the effect of market foreclosure resulting from vertical integration there is no need to distinguish between optometrists and opticians. However, a separation of the two may be in order when reporting the share of dispensing sales held by companies such as Imperial and AOCO. Mr. J. J. Robinette, Q. C., Counsel for Imperial, took the position at the beginning of the Hearings

that opticians and optometrists should be grouped for purposes of computing Imperial's market share. However, no evidence was presented in support of this position during the Hearings. In his closing statement, Mr. B. C. McDonald, Counsel for the Director, argued that opticians and optometrists should not be combined because the source of their prescriptions is different, with optometrists performing both eye examination and dispensing services whereas opticians rely on the prescriptions written by ophthalmologists.

Certain services provided by ophthalmologists are obtainable from optometrists. Essentially these include the assessment of vision and the prescribing of corrective lenses. Since rarely do optometrists dispense spectacles or contact lenses from prescriptions written by ophthalmologists, the opticians' position in the market turns, in the long run, on the extent to which optometrists continue to dispense and on how successful they are in competition with ophthalmologists. Almost as rare is the instance where opticians dispense from prescriptions issued by optometrists who do dispensing. In the case of Dr. S. D. Brisbin, President of Alberta Optometric Association, who informs all his patients of the fact that they are free to have their prescription filled by someone else, only five per cent of his patients chose to do so.

It is difficult to see any avenues of direct competition between opticians and optometrists. Dr. Irving Baker, Registrar, College of Optometrists of Ontario, was asked:

- Q. . . .on a day to day basis in what sense is there competition, either on price or service that you are aware of between optometrists and opticians?
- A. That is a very difficult question for me to answer because I'm not particularly aware of any competition in that sense. . . . I suspect that most optometrists don't think in those terms and by that I mean that whatever decisions they have made within their own office as to how they are going to charge and the amount they are going to charge and how they are going to present this material, whatever motivates them to do this, and part of it is the law because they have to do certain things, once that decision has been made I would say that this is the way they carry on on a day-to-day

basis. I have no sensation that optometrists will frequently change their pattern of practice in a sense. They may, but I am not aware of that.

I think there is a competition, and I am not sure that that is necessarily bad, I think there is a competition in this sense: that when a patient is presented with an optometric bill which includes spectacles he will react in one of two ways, he will either say gee, he really got a bargain because he knows Mrs. Smith went somewhere else and paid so many dollars or feels he was over-charged depending upon the experience of Mrs. Smith. The fact is that on the basis, if you want my own personal feeling, that on the basis of the proposed OAO fee schedule I would say the optometrist in dollar sense is very competitive with the optician. I think--in other words, I think where the competition lies, if you want to speak in that vein is that he can afford, if you want to put it in those terms, to use costly products and come forward with a relatively small bill compared to the optician's approach to this because the more the material costs, the more the optician charges. So, I think in that sense the optometrist competitively is in a favourable position. On a day-to-day basis on a routine, if there is such a thing, a pair of spectacles, I don't think there is really much difference, but I don't think there was any particular attempt, either by the association or by individuals to compete or take the optician or anyone else at a competitive disadvantage because the market forces in those terms aren't there. That isn't why people come or⁹ not come, as the case may be, to optometrists.

To the extent competition exists between opticians and optometrists it is likely to be unidirectional. To the knowledge of the Commission, except in areas where the style of an optometrist's practice is similar in location and outward appearance to that of an optician, optometrists do not try to attract clients bearing the prescriptions of ophthalmologists or other optometrists. In fact, it may be against the Code of Ethics of their professional organization to do so. Opticians may, however, through locating in high-traffic areas, the displaying and advertising of frame selection, and price advertising in some provinces, succeed

in attracting optometric clients. Although the prices charged for spectacles by optometrists could, perhaps, place a limit on those that opticians may charge, there is no evidence that this has ever been a factor in opticians' pricing.

Table 6 shows the dollar volume of lens purchases by type of dispensing outlet and by location. Table 7 is exactly the same in design; it differs only in that an attempt has been made to convert all lens purchases to a common basis. Since lens purchases are being used as a proxy to measure sales of spectacles, it is necessary to ensure that all lens purchases by dispensing outlets bear the same relationship to their lens sales. A comparison of Imperial's stock lens price list and its prescription (Rx) price list shows that, on average, the latter is 2.95 times higher. The principal difference between Table 6 and Table 7 is that the stock lens component of Table 6 has been multiplied by 2.95 to obtain what has been termed "estimated Rx-equivalent lens purchases". Some dispensers, for reasons discussed earlier, choose to buy lenses in uncut form and to do their own edging and finishing. Several of the smaller labs sell only on that basis. Two dollars per pair of lenses was added to the uncut lens component in Table 6 to convert such purchases to an Rx equivalent.¹⁰ Table 7 is used here to discuss the distribution of dispensing sales.

The locations shown in Table 7 represent, save for Kamloops and Medicine Hat, the largest population centres in each of the provinces. (Those two cities were included because the dispensing situation in them was raised during the Hearings.) The Statistics Canada components for Census Metropolitan Areas used in the 1976 quinquennial census and the Census Agglomerations used in the 1971 census¹¹ were utilized in assigning dispensing outlets to locations. Census Metropolitan Areas are locations with more than 100,000 population which are built up by Statistics Canada through an examination of place-of-residence and place-of-work patterns.

As in the case of provincial boundaries which were used to report laboratory sales, the locational boundaries used to report dispensing sales were adopted because they are workable approximations to market areas. There are numerous small intersecting markets within large metropolitan areas and in smaller cities as well. Some patients may never carry their prescription beyond the front door of a

medical building in which there is a dispensing outlet, others may choose to deal with an optician who is closer to their home or their work. In recent years shopping centres and shopping mall locations have been much sought after by opticians. Dispensing outlets in central shopping areas, whether they are near the workplace or because they are frequently visited, are alternatives to outlets located near the home. For many consumers, fashion has converted spectacles from a convenience good into a shopper's good. The range of travel of the inhabitants of a large metropolitan area is one factor that ties numerous local market areas together. Advertising can serve in the same role. It is often sufficient for consumers and merchants to know that certain prices or styles are available in the vicinity to cause the same offerings to be introduced in their locale. Nevertheless, it should be recognized that the share of sales shown in Table 7 represents, at least in part, the weighted average share of sales for a number of smaller markets.

Before discussing market shares in specific locations, it might be noted that there is a striking difference, nationwide, in the location pattern of opticians and optometrists: opticians locate in larger centres while optometrists favour smaller communities. The geographical division of optometrists and opticians is measured by their lens purchases as shown in Tables 6 and 7. By implication the distribution of ophthalmologists in private practice is shown as well because they are necessary to the survival of opticians. Optometrists accounted for 33 per cent of conventional lens purchases and 30 per cent of contact lens purchases in 38 of the largest and regionally important cities which were treated as separate locations. Outside of these locations, conventional lens purchases by optometrists were 63 per cent of the total and their purchases of contact lenses were 61 per cent.¹² The economic attraction of smaller cities and towns to optometrists would appear to be the dearth of ophthalmologists in such communities.

On average a dispensing optician's outlet in metropolitan Ottawa made Rx equivalent lens purchases of \$43,763. This volume of lens purchases implies retail spectacle sales of about \$140,000.¹³ In Thunder Bay, the seven Imperial-affiliated outlets made average Rx equivalent lens purchases of \$69,815. However, smaller opticians' outlets might have annual sales of the order of \$50,000 to \$80,000 and make Rx equivalent lens purchases of \$15,000 to \$25,000. An optician

at the bottom end of this range would probably do his own bench work (he would certainly have the time to do so) and would have to have low overhead. On the other hand, opticians located in high-volume traffic areas such as medical buildings and large shopping centres are likely to have sales volumes considerably in excess of the Ottawa average. But the upper end of the size range is not totally open-ended, with only a handful of outlets achieving sales in excess of \$250,000 and Rx equivalent lens purchases of the order of \$80,000.

The above figures provide only rough guideposts for the interpretation of the figures presented in Table 7. Consider, for example, Victoria, where purchases by Imperial affiliates were \$429,438 (67.7 per cent), by AOCO outlets \$55,012 (8.7 per cent) and by independent opticians \$149,794 (23.6 per cent). The number of outlets that the volume of purchases by other opticians represents is not known. If the outlets were in the choicest locations there could be as few as two of them, whereas if they were all marginal operations there could be as many as nine. However, it is safe to conclude that the actual number of locations will fall somewhere between these extremes and that an average figure of wholesale purchases of \$40,000 per outlet is likely to provide a reasonably close approximation in most cities.

There are a number of instances of chains of opticians' outlets. The most notable examples are the laboratory-dispensers. Another is the Ottawa firm of Derouin which does not operate a surfacing laboratory. These chains have an important impact on the degree of concentration of opticians' outlets in several metropolitan areas. In Quebec City, Robert Laforce, with 10 outlets, has the largest volume of sales - well over a third of the total. In Winnipeg, the Stewart N. King operation accounts for larger sales than the combined total of the Imperial affiliates. Derouin accounts for in excess of 20 per cent of total sales in Ottawa. London Drugs Optical and Ebert Howe & Associates combined have 30 per cent of the sales in the Vancouver area. The large King Optical chain in Southern Ontario has less of an impact in any particular city than the firms mentioned above because its 18 outlets are distributed in a number of cities.

Imperial's share of opticians' sales ranges from zero in Chicoutimi and Shawinigan to over 95 per cent in Thunder Bay. It had at least 52 per cent in half the cities

shown in Table 7, and at least 68 per cent in one-quarter of them.

The table below shows Imperial's market share where it exceeded 50 per cent. This arbitrary dividing line is likely to capture most of the population centres where Imperial's large market share might result in a problem of excessive market power. Also shown is the volume of purchases by other opticians, which serves to keep the size of the city in perspective and also to indicate the number of competing outlets which might be found, on average. Purchases by AOCO outlets have been grouped with those of independent opticians. This makes little difference in most locations, with the exceptions of Toronto and Hamilton, where adding the AOCO sales to those of Imperial results in a two-firm market share of 61 per cent and 66 per cent, respectively.

Location	Imperial's Share	Purchases by Other Opticians
	%	\$
Victoria	67.7	204,806
Calgary	54.8	577,127
Edmonton	75.7	269,277
Regina	51.9	216,153
Saskatoon	70.8	131,566
Brandon	52.5	84,743
Guelph	(minimum) 80.0	-*
Hamilton	58.6	401,667
Kingston	88.3	30,330
London	52.9	248,237
Oshawa	55.1	125,211
Peterborough	76.1	52,526
St. Catharines	85.2	79,267
Sarnia	55.8	46,077
Sault Ste Marie	61.1	74,675
Sudbury	54.3	100,633
Thunder Bay	(minimum) 95.0	-*
Toronto	54.3	2,717,547
Windsor	71.4	132,495
Saint John	86.7	32,296
St. John's	63.6	146,367

* Purchases by independent opticians were less than \$20,000 and they were combined with optometrists' purchases in Tables 6 and 7 for reasons of confidentiality.

CHAPTER VI

EXCLUSIVE DISTRIBUTORSHIPS

One of the questions raised during the course of the inquiry concerns the availability of supplies to laboratories. There is evidence of several partial or total exclusive distributorships in ophthalmic products and professional instruments. These examples have almost always related to Imperial, although other companies have sometimes been mentioned.

Frames

The predominant method of distributing frames is through exclusive distributorships. According to Mr. Victor Cohen of Vilico Optical Inc., this method of distribution benefits both the manufacturer and the distributor. The gain to the distributor was not elaborated on by Mr. Cohen, presumably because it is obvious: the distributor is relieved of being forced to compete with other suppliers of an identical product. Mr. Casson expressed the advantage to the distributor as follows:

. . . I don't think most of us enjoy any business where you walk in and your salesman walks in and he has a legitimate frame or a piece of equipment or lens for which you charge four ninety-five, and a little fellow has walked in and offered it for four seventy-five, and you are penny-picking and so on. This, to me, is rather nauseating, but, however, that is part of business.

Now, obviously, if you have something relatively exclusively, or exclusively, then you can set a fair price and without having the price jockeyed all over the place, which makes for some continuity and stability in business.¹

As seen by Mr. Cohen the gain to the manufacturer is the provision by the exclusive agent of after-service, mainly in the form of parts.

Concerning the manufacturer, Mr. Casson said:

. . . his biggest problem in life is planning his production. So, he wants to know that next month he can make 5,000 or 50,000 of this. He cannot depend on a whole group of little weeny orders. He wants to have big orders and he wants them guaranteed and he wants to know he is selling to somebody who can pay their bills, and today it costs a fortune in billing.²

Imperial, like other companies, has entered into a number of exclusive arrangements for frames. In 1976 it had exclusive distributorships with seven companies in the United States, four in Italy, and two in Germany. It had a first-refusal arrangement with three companies in the United States, four in France, seven in Italy, one in Germany, one in Spain and one in Japan. The total number of frame manufacturing firms in these countries was a multiple - often a large multiple - of the number of firms with which Imperial had either type of arrangement. Moreover, as pointed out by Mr. Casson, several of the most important European manufacturers and lines - Metzler, Rodenstock, Margatz and Holzer, Christian Dior, Sofilo, and Silhouette - were not represented in Canada by Imperial.

It is pertinent that Mr. Casson did not extend the list of prestigious lines carried by other suppliers to frames of United States origin. There has been a significant shift away from United States frames in favour of those of European manufacture.

There can be little question that Imperial's retail and laboratory network places it in a very strong position in obtaining exclusive distributorships. However, a large number of important exclusives are held by others. The reason for this was given by Mr. Casson:

Q. I take it also from your evidence that Imperial's size and retail volume in Canada gives it an edge over its Canadian competitors in obtaining exclusives, would that be a fair statement?

A. Yes, but seldom in life or any of these things is it as simple as that. . . . We would like to have the Metzler line. Why don't we have the Metzler line? Well, this goes back a long time in history.

Back in, say 1950 and 1951, 1952, I can well recall us discussing the change in styling and the change --European manufacturers seemed to be getting more interested and getting out more exciting products. We had a decision to make. We represented some very good American manufacturers, Fairfield, Liberty, Artcraft. These people want distribution and it was our considered decision that if we started to order too much from Europe we would offend and annoy the people in the States, so we decided not to do it. In the light of time that probably was an error in business judgment. . . .

Rodenstock, very similarly, had the same situation. Rodenstock offered us their line and in our wisdom we said, "Well, we really can't do the job for you."³

A dispenser who would like to obtain a frame or any other ophthalmic product such as a special lens sold under an exclusive distributorship may obtain supplies from the distributor who handles the product. Alternatively, the dispenser may request that the laboratory he normally deals with obtain the supplies for him. However, laboratories or other wholesalers are not bound to supply each other and Mr. François Bourbonnais, President of Pro Optic Inc. (formerly Optilite Inc.) said that National Optical Co. Ltd., Imperial's Quebec company, refuses outright to supply him when he needs frames carried by Imperial to meet orders from British Columbia or Alberta. He is then forced to obtain the frames by other unspecified means, but this results in some delays. In contrast, Mr. Cohen of Vilico said that he never had any difficulty in obtaining frames from other suppliers.

In dealing with each other, wholesale suppliers normally grant a 10 per cent discount. (Two per cent of this figure is for prompt payment.) The discount is at the same level as that given by the larger laboratories to their better customers. It is doubtful, however, whether a 10 per cent discount can do much more than cover transaction costs for a distributor. This should not pose a problem for a laboratory as long as it does not have to obtain a significant part of its supplies from other laboratories or wholesalers.

As illustrated by Mr. Casson's description of Imperial's failure to obtain several prestigious European

lines, as long as there are a large number of competing manufacturers, as in frames, Imperial or any other distributor is constrained as to the number of lines for which they can obtain exclusive distributorships. In order to obtain an exclusive, Imperial usually has to guarantee a minimum quantity per year. When sales expectations of the manufacturer are not met they may end the agreement, as occurred when Essilor withdrew certain brands of frames from Imperial.

The difficulty in meeting the expectations of a large number of competing manufacturers which is present in frames is less of a problem or may not even exist for products which are unique or for which there are few substitutes.

Varilux 2

More documentation has been made available to the Commission on the arrangements between Imperial and Essilor with respect to the Varilux 2 lens than for any other exclusive held by Imperial.

When the Varilux 1 lens was marketed in Canada, Imperial had the exclusive distribution of it under the name of "Multilux 1". Essilor preferred that its products should be marketed by Imperial under Imperial's own brand names.

When Essilor began to introduce the Varilux 2 lens in Canada, in 1974, shortly after its introduction in France and Japan, it gave Imperial exclusive rights to distribute the lens under the "Multilux 2" trade name. The rights were granted for all of Canada, save Quebec from which Imperial was excluded. Quebec was supplied by Essel Optique Canada Ltée and, later in the year, L'Optique Richelieu and a few other laboratories were also granted supplies.

In order to ensure the marketing success of the Varilux 2 - a success denied the earlier version - Essilor imposed restrictions on the way Imperial could market the lens. Limited market areas were selected for the introduction of the lens and a thorough education programme for dispensers and consumers was required. In addition, to facilitate a successful accommodation to the lens by consumers, a limit was placed on the strength of the reading portion of the lens. This limit (an "add" of 2) was later

increased, enlarging the size of the market that could be reached.*

Essilor also imposed the condition that dispensers served by the Imperial laboratories own an Essilor-manufactured pupilometer, an instrument for measuring inter-pupillary distance. Many dispensers take this reading using an ordinary ruler. There is no evidence that Essilor imposed this condition as a form of tied sale designed to extract monopoly profits from the tying good, the Varilux 2. The indications are that the pupilometer was seen as providing a more accurate measurement, leading to a better fit for the customer, and thus helping to ensure ready acceptance of the Varilux 2. Ownership of an Essilor pupilometer does not appear to be a condition that could be successfully imposed beyond the controlled introductory phase of the Varilux 2. In making sales of finished uncut lenses to dispensers, Essilor appears to have abandoned the ownership of a pupilometer as a condition for obtaining the Varilux 2. Advertisements in the *Ontario Optician* in 1978, presumably addressed to all opticians, point in the same direction.

In 1976 Imperial was given permission to market the Multilux 2 in Quebec while Essilor gave its subsidiary, Essel, access to all parts of Canada. As noted below, this in effect means that the Varilux 2 is available to dispensers outside of Quebec through Essel's Montreal laboratory.

Essilor policy is to distribute Essilor products through exclusive agents, partners or subsidiaries and it is Essel which is the distributor of the Varilux 2. But in recognition of its outstanding market position Imperial has been granted an exclusive position outside of Quebec.

Like other multifocal lenses, the Varilux 2 is supplied by the manufacturer in semi-finished form with the lenses then ground to individual prescription by the laboratory. The exclusive Imperial holds outside Quebec requires that Essilor will not sell the semi-finished lens to other laboratories. Essilor also agreed not to open any

* The difficulty in adjusting to bifocals or other multifocal lenses is related to the power of the "add" portion of the lens used for close vision.

laboratories outside of Quebec. Unlike other lenses on which Imperial holds an exclusive, it does not sell the Multilux 2 in semi-finished form. Mr. Casson stated:

We don't sell semi-finished lenses to anybody else for two reasons. . . . One is we have not been asked by other wholesalers and, two, there isn't sufficient profit in it for us to give them a discount.⁴

It is not known whether or on what terms Imperial fills prescriptions for the Multilux 2 received by other laboratories.

According to the conditions set down by Essilor it has to approve Imperial's laboratory price for the Multilux 2. However, Essilor has never tried to modify prices established by Imperial.

Orma and Armorlite Lenses

"Orma 1000" is an Essilor trade name for a single-vision plastic lens, for which Kahn had been granted an exclusive. Mr. Casson described how Imperial too obtained a distributorship:

When I first made the arrangement with them in Paris, they said, "Look, we sell our lenses as Orma and we already have an agent in Canada and he sells Orma." That agent was Optical Distributors Limited which is an operating name for Kahn Optical, and the chap involved is Mr. Ben Laddin who is highly regarded by everybody. He was supplying us and that is where we got into the difficulty of how much was being added for handling a piece of paper. Orma said, "We will supply you Orma lenses direct, as well as continuing with Optical Distributors. Optical Distributors, we will let them keep selling Orma and you may sell under some other name." So, after a lot of discussion we chose Hardlite and then they decided they had to approve our envelopes and we got going distributing Hardlite uncuts to the retailers and we have a reasonable business selling these lenses.

Then they said, "All right, you may also sell to other wholesalers," and Hardlite semi-finished lenses we sell to other wholesalers.⁵

Sales to other laboratories or wholesalers by Imperial are few. AOCO produces its own plastic lens. Bausch & Lomb ceased production of its own plastic lenses but Imperial was not listed as a supply source. The remaining wholesale customers were described by Mr. Casson as unwilling to:

. . . pay the prices, the extra 20 per cent, for Orma or Armorlite. They want the quality, but they want to have the maximum savings. We find them dealing with all the little fellows all around the United States. They can buy them from us.⁶

The rush to plastic lenses following the United States' Federal Drug Administration decision requiring impact-resistant lenses resulted in many producers entering into the manufacture of plastic lenses. However, the expertise to produce fine quality plastic lenses was not available. Mr. Casson said that an expert opinion they received on the molecular structure of a number of plastic lenses was to the effect that the Orma lens, followed by the Armorlite lens, was easiest to surface.

A. We buy semi-finished lenses. Suppose we buy them from Orma or we buy them from Coburn, we grind it. That grinding will cost us three, four, or five dollars. With a Coburn lens, not often, but enough to be an expense item, we will find that the centre is off or something is wrong with the lens. There is no way we can use that lens, so we take another lens and start over. We have lost the price of the lens and the price of the labour. If we take an Orma lens, we grind it, it comes on dead, the way we want it, so that is the significance.

Q. So, you may, in fact, be saving money buying from Orma?

A. Yes.⁷

Mr. Stephen Cohen of Plastic Plus, which is devoted exclusively to plastic lenses, described early difficulties in surfacing. These problems were solved after Coburn set up proper surfacing procedures, including the use of a small computer. Mr. Victor Cohen of Vilico, where plastic lenses account for about 80 per cent of volume, said that he had no difficulty in obtaining plastic lenses.

Mr. Bourbonnais, whose laboratory is devoted to plastic lenses, said that when he started there was only one supplier, Titmus, who was willing to sell to him but it did not produce all the types of lenses he needed. Some continuing difficulties in obtaining supplies existed, in the experience of Mr. Bourbonnais, because companies tended to specialize. Kahn has an exclusive arrangement with Univis and Imperial has one with Armorlite. Two types of lenses for cataract patients are produced solely by Armorlite; when Mr. Bourbonnais approached the company he was referred to the Canadian distributor. Mr. Bourbonnais said that the price he would have to pay Imperial is too high.* He has, therefore, found other means of obtaining supplies. In 1975 Optilite sold 1,500 pairs of Armorlite's Ovan lenses. These sales represented important revenue to his firm since the laboratory price of these lenses is considerably higher than for ordinary lenses.

Evidence provided by Mr. Casson on the comparative prices charged by Imperial and the manufacturers of the Orma and Armorlite lenses would appear to contradict Mr. Bourbonnais' evidence. The import of Mr. Casson's evidence is that, taking into account what he knows of Essilor's and Armorlite's discount policies, lenses in quantities of up to several hundred pairs can be obtained more cheaply from Imperial. Although Mr. Casson attempted to take the discount policies of Essilor and Armorlite into account, one cannot be sure of what these policies are without knowledge of actual transaction prices. Moreover, it is relevant to question the value of an exclusive to Imperial if customers should voluntarily choose to buy from Imperial in any event, because of its more favourable prices. The most relevant consideration with respect to the above evidence of Messrs. Bourbonnais and Casson is that the volumes mentioned by Mr. Bourbonnais were considerably in excess of those used by Mr. Casson in making his comparison. One would think that even larger volumes would be involved for a laboratory specializing in plastic lenses for standard single-vision lenses.

One of the cataract lenses produced by Armorlite is the Welsh Four-Drop lens. A difficulty with lenses for

* Mr. Bourbonnais said that he anticipated that he might have difficulty in the form of delays, in obtaining supplies from Imperial if he did seek to buy the Armorlite lenses from that company.

post-cataract patients is the distortion in peripheral vision which occurs if the same strength is used at the perimeter of the lens as is used at the optical centre. Accordingly, the lenses are made aspheric. At one time this was a laboratory procedure but with the advent of plastic lenses, which are moulded, the aspheric shape is obtained at the manufacturing stage. The Welsh Four-Drop lens is an aspheric lens of a particular patented design. Armorlite produces the lens under an agreement with its inventor, for whom the lens is named. According to Mr. Casson, a lens (the Hyper-Aspheric lens) produced by Signet Optical of California is identical to the Welsh Four-Drop lens.

Instruments

It is the policy of Imperial to obtain an exclusive if it approves of the product. This policy is especially applied to instruments used by ophthalmologists and optometrists. One of the most highly regarded products for which Imperial holds an exclusive distributorship is the Haag-Streit slit lamp. Mr. Hollenberg of Western Optical objected to this exclusive (as he did to all others):

- Q. What significance are you attaching to the Imperial exclusive ---
- A. If a graduate ophthalmologist comes into our plant and says "I want a Haag-Streit slit lamp for my office", we can't get it. That is the significance. They are referred right back to Imperial.⁸

Imperial is virtually the only firm which supplies ophthalmologists. The only other distributor is Mr. Henri Allard of Montreal who operates A-M Instruments Inc. One must assume that some arrangement is made with Imperial by equipment manufacturers to allow Mr. Allard to be supplied. An effect of the Imperial exclusive distributorships is that it would be very difficult for another distributor to get started if the major manufacturers are forced to choose between the would-be entrant and Imperial.

There is another aspect to the sale of instruments to ophthalmologists: their sale on favourable terms can be regarded as a form of public relations with the ophthalmologist. One of the reasons advanced by Mr. Casson for seeking

exclusives on equipment was to avoid the sale of instruments at cost:

They use it as a means of getting prescription business because they have no investment, they are not carrying equipment. All they are doing is having the equipment shipped in and out, and so to help a customer save money they would do this. But if we have it exclusively, then we have to put a fair price on it and we can maintain the price and we can stop practices like that.⁹

However, Mr. Casson said that they are prepared to sell the Haag-Streit slit lamp to Bausch & Lomb or other firms so that they could make the sale to ophthalmologists if they so chose. The customary 10 per cent discount would be allowed, with a higher discount to Bausch & Lomb and AOCO because they are manufacturers. It was noted that three units had been ordered by Maritime Optical. However, the reason offered for seeking an exclusive suggests that Imperial would reserve the right not to supply another firm if Imperial did not like the price at which the product was resold. It is relevant to note that the educational and other activities carried out by Imperial, which are described in other chapters, also constitute a form of prestige-building public relations.

Other Exclusives

No attempt had been made to obtain a list of all the exclusives held by Imperial and other firms. But it is obvious that a firm as active as Imperial is in seeking new ophthalmic products throughout the world is going to discover and seek exclusives on many products.

An illustration of the scope of the exclusive distributorships held by Imperial is provided by low-vision aids. It is very active in this area; it appears to be the only company that has made any substantial investment in carrying numerous types of magnifiers which are used for people with very little vision. Imperial works closely with the CNIB and provides fitting services at its head office for several hundred patients a year. One of the few concrete examples of the operation of an exclusive occurs in Mr. Casson's account of an incident with one of the suppliers of low-vision products:

Mr. Charles Keeler came to me a few years ago and he said, you know, "We would like to see more distribution of Keeler L.V.A. aids. We think we have something that is the best in the world," and I said, "I agree with you, I think you have, too." Well, "Why don't we sell more in Canada?", and I said, "Two reasons. One, perhaps we haven't got as many people needing L.V.A. here," and he said, "I don't believe it," and I said, "Unhappily, neither do I." I said, "Two, we do the best we can, but we cannot get people to spend the time on this." He said, "Would it be because perhaps they don't want to buy from Imperial Optical?" I said, "I don't think so," and he said, "Well, I think it is," and he said, "I have got two big dispensers, one in Montreal and one in the west, who will buy from us, but not from you," and I said, "Fine. We are certainly not going to stand in the way of anybody getting a product like that because of us. Go sell them," I said, "but do one thing," and he said, "What is that?" "Insist that they buy enough to do a proper job. Don't just sell them \$50.00 worth of magnifiers that they can use when they want." "Oh," he said, "I wouldn't think of it," and neither he would because he is built that way. He said, "Their minimum order to get started is \$2,500 to get a proper kit." I said, "Fine," so I saw him -- this was at a meeting and all these people were at the meeting, so, I saw him two days later and I said, "Well, how are your orders for those people?" "Oh," he said, "when they found it was \$2,500, they decided they didn't have time to talk to those people."¹⁰

CHAPTER VII

MARKETING BY LABORATORIES

The major part of most laboratories' sales are made within a 100 to 200-mile radius. Laboratories generally sell frames in addition to grinding and finishing lenses. Because of the presence of a number of frame wholesalers in Quebec, frame marketing by laboratories is mainly carried on by the large laboratory chains. The price catalogues issued by laboratories appear to offer potential customers complete information on the types of lens available and their prices. What is generally missing, however, is the discount* structure offered, which is apparently conveyed in a more private way. Larger laboratories employ salesmen to visit customers and as explained by Mr. R. Custeau of L'Optique Richelieu, their function is to market frames since little point is seen in employing salesmen to sell lenses.

Difficulties in Making Price Comparisons

Price catalogues were requested of laboratories when they were contacted in the course of the questionnaire survey undertaken by the Commission to determine market shares. Firms were also asked to report on any volume or cash discounts they offered.

Twenty-four price lists were received, eleven of them from Quebec-based laboratories. Included among the

* The terms "discount" and "rebate" were both used in the course of the Hearings; the former term has been retained by the Commission.

latter is National Optical, a subsidiary of Imperial. As far as can be determined, all of the lists applied to the middle part of 1975.*

There are a number of difficulties in making price comparisons among laboratories. (Most of the same difficulties apply when attempting comparisons among dispensing outlets.) The most intractable is the possibility that published prices may differ from actual prices because of the presence of hidden discounts. Even where the discount schedule is known, its existence is a factor that does not lend itself to easy incorporation into price comparisons. Apart from discounts for early payment, the discounts which have come to the attention of the Commission are volume-sensitive. The attractiveness of dealing with one laboratory or another may depend on the size of the customer.

There are problems even in making comparisons based solely on published prices. There are a large number of lens categories as there are several types of widely-used lenses, each with numerous possible prescription values. A laboratory (or a dispensing outlet) may be cheaper for some lens categories and more expensive for others. Unless one laboratory is cheaper for all lens categories than another it is impossible to obtain a ranking in the absence of an explicit weighting scheme. Weights are also required for the computation of average price differences among laboratories. One source of price difference between laboratories is the breakdown of lens powers for price divisions. These are not uniform among firms. For example, Imperial has one price for lenses between plano (no lens power) and 2.00 diopters, a higher price for lenses falling between 2.25 and 4.00 diopters, and another price for those between 4.25 and 6.00. In contrast Kahn's first division is between plano and 4.00 and its second between 4.25 and 10.00. Kahn's use of a wide division tends to make its lenses more expensive at the bottom end of the range and cheaper at the top end when compared to

* One of the companies from whom a list for that period was not obtained is AOCO. The major change in AOCO's pricing structure occurred the following year.

laboratories such as Imperial which use narrower divisions. The existence of common extras, such as tinting and hardening of lenses, is an additional complication.

As suggested by Mr. Bourbonnais, President of Pro Optic Inc., the best way of avoiding all difficulties, (save that of discounts) is to make price comparisons over a large sample of prescriptions. In effect, the weights used are those inherent in the sample. Since this was not feasible in this inquiry, other approaches to price comparisons have been necessary. Before turning to a discussion of the price information received by the Commission, it is useful to consider volume discounts, since they must form an integral part of any price comparisons.

Volume Discounts

Most laboratories offer some form of volume discounts. Mr. Kahn discussed the origin of the discounts in the context of price competition:

Q. Do you ever recall a price war between laboratories in Canada?

A. It would depend on what you call a price war. There are a number of laboratories that use price as a primary basis for getting business. We simply do not follow them, so when you think of a price war normally in a commodity such as gasoline, I guess within a given area people follow it and then outside of that area they do not. Perhaps there are one or two dealers even within the area who do not follow it. We simply choose not to follow a price war, on the basis again of policy that if we did it for one we would do it for all. Now some years ago a discount schedule was introduced to the field and the discount schedule was introduced first in Quebec, second in Saskatchewan. We did nothing, we merely watched it, but it was introduced by one of our major competitors.

Following the Saskatchewan move and what we could see of our business beginning to drop as a result of it, we announced it, only we announced it to the whole country. I even sent the letters to Newfoundland not because we were doing business there but mainly because we thought everybody might as well know, so that was the response to a competitive situation which was hurting, so we had to respond.

Q. It would be contrary to your company policy to respond competitively by a price reduction or increase in discounts on a local basis?

A. Precisely.¹

The present structure of the industry in Quebec makes it understandable that a competitive practice would have been introduced there, but it is difficult to see from the present situation why the practice would have spread first to Saskatchewan. In any event, discounts are an integral part of the prices charged by laboratories.

Mr. Bourbonnais and Mr. Kahn both voiced objections to the discounting by laboratories. The essence of their objections is the same: that the volume discounts were not the result of cost savings. Since each job in the laboratory is done to order, costs are unaffected whether the jobs are done for a single customer or several customers. Mr. Bourbonnais also made the point that the discounts or rebates resulted in a form of discrimination between customers.

Shown below are the discount structures of a number of laboratories. The firms in the first three columns have wide national representation. The only other such firm, AOCO, tends to have a more flexible discount policy as described by its president, Mr. Bergmann:

Q. I received the impression from the evidence you gave in chief this morning that your laboratories had one price across the country and one discount across the country. Was that an accurate impression?

A. We have a national price list for laboratories.

Q. It applies to all your labs?

A. The discount is not uniform across the country. It is not uniform area by area. It depends upon the volume and upon the competitive situation in a particular lab area. If I look at the average cost of an Rx going out of a laboratory it varies across the country. Well, it varies.

Q. That each lab or individual labs might have their own discount, special discount structure that they regard as necessary for their particular market type of thing?

A. That could be. There are volume differences in accounts. We try to maintain a competitive price structure, but when you have local situations where you have to meet competition we do meet competition provided that we are still running a profitable business.²

Several months after Mr. Bergmann gave evidence in June 1976, AOCO moved from a single national price list to separate lists for British Columbia and Quebec, with a third one for other regions.

As far as is known the Imperial discount structure applies to all regions except Quebec, where National, Imperial's subsidiary, has its own price list and discount structure. The sole difference between the National and Imperial discounts is that the former's largest discount is 10 per cent, which applies to volumes in excess of \$2,000. Two other Imperial subsidiaries, neither of which is wholly-owned, also have separate discount structures. Hudson, an important firm in British Columbia and Alberta, and Bingham, a small Ontario firm, both offer more favourable terms than Imperial. In both cases the same discounts can be earned on one-half or less of the volumes required by Imperial. However, neither firm offers discounts as high as 15 per cent.

MONTHLY VOLUME DISCOUNTS

Percentage Discount	Bausch & Lomb	Imperial	Kahn	Eastern*	K & W	Venasse
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
2	1- 950	1-1,000	1- 500	-	1-1,000	1- 750
5	951-1,900	1,001-2,000	501-1,000	833-1,250	1,001-2,000	751-1,500
7	-	-	1,001-1,300	1,251-1,667	-	-
10	1,901-2,850	2,001-5,000	1,301-1,500	over 1,667	2,001-3,000	over 1,500
15	over 2,850	over 5,000 ⁺	**		**	

* Converted from annual figures.

** It is not known whether Kahn and K & W allow discounts greater than 10 per cent for volumes in excess of \$1,500 and \$3,000, respectively.

+ Mr. Casson said that a customer in British Columbia had negotiated a discount in excess of 15 per cent at one time but that the figure had been renegotiated to 15 per cent.

Practically all opticians and reasonably busy optometrists have a sufficiently large volume of retail sales that they should be able to qualify for a 10 per cent discount from all laboratories. Whether they do or not depends on the extent to which they spread their purchases and whether they do their own edging. Monthly purchases exceeding \$2,000 are required by Imperial and K & W for a 10 per cent discount. On an average markup of 150 per cent this translates into annual gross sales of \$62,000. An optician's outlet with less than this volume is a marginal operation. The main reason for a dispenser to spread his purchases is in order to broaden his frame selection. This factor alone is probably sufficient to cause dispensers to slip below the 10 per cent discount category even though they may be using a single laboratory for all of their prescription work and a part of their frame requirements. The other major source of diluted purchases comes from dispensers who do their own edging. Many of these laboratory customers probably purchase in volumes which place them in the two per cent discount range. There are very few single-outlet dispensing firms which would have the volume to qualify for Imperial's 15 per cent discount. Some very large outlets might be able to provide Bausch & Lomb's required volume, but they would only be able to do so if they were very loyal customers.

Of the other firms whose discount structures are shown above, Eastern and K & W are important regional firms, while Venasse is in the favourable position of being the only laboratory in the immediate area of North Bay, Ontario.

Not all firms reported their discount practices, although in several cases the detail provided extended to the discounts granted to specific customers. For those firms which provided information in Quebec, three offered 15 per cent discounts and one as much as 25 per cent. In the latter case the required monthly volume was only \$100. Two of the other firms required \$500 per month and it is not known what conditions had to be met for the remaining laboratory.

Several firms do not offer discounts beyond two per cent for rapid payment. These firms approach the market

with list prices well below those of other firms. One such firm is L'Optique Richelieu, which by reason of its several branches, large market position and ownership ties with optometrists is one of the most important firms in Quebec. L'Optique Laviolette Limitée in Trois-Rivières is the only laboratory in Quebec or elsewhere in the country which has lower prices. A Toronto firm, K & H, also publishes a price list well below those of other firms in its area.

The discounts provided are included in the extensive price comparisons undertaken in the following section.

Laboratory Prices

Table 8 shows the price lists for a number of categories of commonly-used lenses. It is known that by far the greatest part of lens sales fall into the lower powers. A cut-off at 9.00 diopters, which has been used here partially to facilitate comparisons with the Green Book and partially for manageability, exhausts all but a small percentage of prescriptions.

Prices for glass lenses of eight laboratories or laboratory chains are shown. Imperial, Bausch & Lomb and Kahn operate chains of laboratories and are represented in most regions. National is a wholly-owned Imperial subsidiary in Quebec and L'Optique Richelieu operates several laboratories in that province. Eastern is a large laboratory in Dartmouth, Nova Scotia which enjoys considerable success throughout the Eastern Provinces. K & W, in Kitchener, operates one of the larger laboratories in Ontario and Central occupies an important market position in Manitoba. The price lists of the laboratories not shown in Table 8 will be discussed in relation to those which have been so included.

The price structures of Bausch & Lomb, Kahn and Imperial demonstrate the difficulties of making price comparisons when laboratories use different price divisions. On the face of it, customers need not concern themselves with such comparisons since it appears that the optimal

strategy for a customer is to use the laboratory with the narrowest ranges, Imperial in this instance, for the lower division lenses and the one with the widest divisions, Kahn, for the higher division lenses.

In the words of Mr. Casson:

The customers, who are very astute, look at this [the Kahn and Imperial price structures] and the low powers they send to us because we are cheaper than Kahn. The high powers vice versa.³

Such a strategy would be particularly damaging to the laboratory with the wide divisions because the price averaging over a wide range is presumably based on sales throughout the range and not just of relatively high-cost lenses at the upper end. In the view of Mr. Casson this was one of the problems of trying to change from the narrow divisions which had existed for decades.* However, to the knowledge of Mr. Kahn, there was only one customer who followed a practice of splitting his purchases in order to take advantage of different laboratory pricing structures. Since Kahn's "average price" structure had been in existence since 1973 or 1974, customers had obviously had sufficient time to evolve such a strategy.

The existence of volume discounts is one factor reducing the monetary advantages of dividing purchases. Under reasonable assumptions the cost of splitting purchases in terms of foregone volume discounts will generally amount to thirty cents or more on a ten-dollar pair of lenses.** The time and bother of dividing prescription work between two or more laboratories must also tend to discourage such an approach.

* The president of AOCO also identified this as a factor that had to be considered when a laboratory puts a price list together.

** See Appendix A to this chapter for the explanation of the figures used in the text.

TABLE 8
LABORATORY PRICES, 1975

IMPERIAL		BAUSCH & LOMB		KAHN	
<u>Single-vision</u> Sphere	\$/pr	<u>Single-vision</u> Sphere	\$/pr	<u>Single-vision</u> Sphere	\$/pr
Plano-2.00	6.40	Plano-3.00	6.50	Plano-4.00	6.90
2.25 - 4.00	7.40				
4.25 - 6.00	8.40	3.25 - 6.00	8.50	4.25-10.00	9.80
6.25 - 9.00	12.80	6.25 - 9.00	12.50		
<u>Single-vision</u> Sphero-cylinder		<u>Single-vision</u> Sphero-cylinder		<u>Single-vision</u> Sphero-cylinder	
Plano-2.00		Plano-3.00		Plano-4.00	
0.12-2.00	8.60	0.12-2.00	8.50	0.12-3.00	8.90
2.25-3.00	9.80	2.25-3.00	9.50		
3.25-4.00	12.60	3.25-4.00	12.50	3.25-6.00	15.20
4.25-6.00	17.20	4.25-6.00	16.50		
<u>Kryptok</u> Sphere		<u>Kryptok</u> Sphere		<u>Kryptok</u> Sphere	
Plano-2.00	11.50	Plano-3.00	12.30	Plano-4.00	12.60
2.25 - 4.00	14.00				
4.25 - 6.00	16.20	3.25 - 6.00	15.30	4.25-10.00	18.10
6.25 - 9.00	20.40	6.25 - 9.00	18.30		
<u>Executive</u> ^a Sphere		<u>Executive</u> ^b Sphere		<u>Executive</u> Sphere	
Plano-2.00	18.20	Plano-3.00	18.30	Plano-4.00	18.60
2.25 - 4.00	20.60				
4.25 - 6.00	22.20	3.25 - 6.00	21.30	4.25-10.00	24.10
6.25 - 9.00	25.90	6.25 - 9.00	24.30		
NATIONAL ^c		L'OPTIQUE RICHELIEU ^c		EASTERN	
<u>Single-vision</u> Sphere	\$/pr	<u>Single-vision</u> Sphere	\$/pr	<u>Single-vision</u> Sphere	\$/pr
Plano-2.00	6.40	Plano-2.00	5.10	Plano-2.00	6.40
2.25 - 6.00	8.00	2.25 - 4.00	5.90	2.25 - 4.00	7.40
		4.25 - 7.00	7.60	4.25 - 7.00	8.50
6.25-12.00	14.00	7.25 - 9.00	10.50	7.25 - 9.00	12.50
		9.25-12.00	15.40		
<u>Single-vision</u> Sphero-cylinder		<u>Single-vision</u> Sphero-cylinder		<u>Single-vision</u> Sphero-cylinder	
Plano-2.00		Plano-2.00		Plano-2.00	
0.12-2.00	8.40	0.12-2.00	6.70	0.12-2.00	8.60
2.25-3.00	9.40	2.25-3.00	8.10	2.25-3.00	10.00
3.25-6.00	15.00	3.25-6.00	12.00	3.25-6.00	14.00
<u>Kryptok</u> Sphere		<u>Kryptok</u> Sphere		<u>Kryptok</u> Sphere	
Plano-2.00	12.00	Plano-2.00	9.50	Plano-2.00	12.10
2.25 - 6.00	14.00	2.25 - 4.00	11.70	2.25 - 4.00	14.30
		4.25 - 7.00	14.40	4.25 - 7.00	17.30
6.25-12.00	19.00	7.25 - 9.00	16.90	7.25 - 9.00	20.80
		9.25-12.00	18.70		
<u>Executive</u> ^d Sphere		<u>Executive</u> Sphere		<u>Executive</u> Sphere	
Plano-2.00	17.00	Plano-2.00	14.40	Plano-2.00	18.40
2.25 - 6.00	19.00	2.25 - 4.00	16.70	2.25 - 4.00	20.60
		4.25 - 7.00	19.50	4.25 - 7.00	23.70
6.25-12.00	24.00	7.25 - 9.00	23.40	7.25 - 9.00	27.00
		9.25-12.00	24.90		

TABLE 8 - Continued

K & W		CENTRAL		K & H ^e	
<u>Single-vision</u> Sphere	\$/pr	<u>Single-vision</u> Sphere	\$/pr	<u>Single-vision</u> Sphere	\$/pr
Plano-4.00	6.50	Plano-2.00	5.80	Plano-2.00	5.20
4.25 10.00	9.10	2.25 4.00	6.50	2.25 4.00	6.00
		4.25 6.00	7.70	4.25 6.00	6.80
		6.25 9.00	10.50	6.25 9.00	10.00
<u>Single-vision</u> Sphero-cylinder		<u>Single-vision</u> Sphero-cylinder		<u>Single-vision</u> Sphero-cylinder	
Plano-4.00		Plano-2.00		Plano-2.00	
0.12-3.00	8.60	0.25-2.00 ^f	7.80	0.12-2.00	6.80
3.25-6.00	13.80	2.25-4.00	8.60	2.25-3.00	7.60
		4.25-6.00	15.50	3.25-4.00	10.00
				4.25-6.00	13.20
<u>Kryptok</u> Sphere		<u>Kryptok</u> Sphere		<u>Kryptok</u> Sphere	
Plano-4.00	12.30	Plano-2.00	10.50	Plano-2.00	9.80
4.25-10.00	17.30	2.25 4.00	12.50	2.25 4.00	11.00
		4.25 6.00	14.50	4.25 6.00	12.20
		6.25 9.00	17.50	6.25 9.00	14.60
<u>Executive</u> Sphere		<u>Executive</u> Sphere		<u>Executive</u> Sphere	
Plano-4.00	18.30	Plano-2.00	17.40	Plano-2.00	14.70
4.25-10.00	23.60	2.25 4.00	19.00	2.25 4.00	15.80
		4.25 6.00	20.00	4.25 6.00	17.00
		6.25 9.00	22.00	6.25 9.00	19.40

SOURCE: Price list of the companies.

- ^a The executive-style of Imperial is called "President".
- ^b The executive-style of Bausch & Lomb is called "Dualens".
- ^c Prices up to 12.00 diopters are shown for National because the range of its third division runs from 6.25 D to 12.00 D. L'Optique Richelieu's prices are also shown up to 12.00 D in order to have comparability with those of National.
- ^d The executive-style of National is called "President".
- ^e The K & H price catalogue contains the statement: "20% Discount Showing." Two price catalogues for 1975 were received from K & H, dated April and May. There were several small differences between the two. The May catalogue has been used in the table.
- ^f The cylinders for Central start at 0.25, while all the others start at 0.12.

In addition, a laboratory that was being victimized might reasonably be expected to be less responsive to those who exploited their price structure.

The task of determining which laboratory is offering more favourable prices overall is straightforward for an experienced dispenser who has a good idea of the distribution of his prescriptions. The Commission has far less information, but certain facts are available. It is widely known that prescriptions are concentrated in the lower divisions and, according to Mr. Kahn, their numbers fall off in a path described by an exponential curve. It is also known from the information discussed in Chapter I that single-vision lenses represent about 65 per cent of all lenses by volume. By applying an exponential function to each lens type a weighted-average price can be obtained for that type of lens. In addition, weights representing each lens type can be assigned to obtain an overall weighted-average price.

The equation employed to derive the weights is $Y = b/a^{x/c}$, where Y is the number of prescriptions corresponding to various prescription values, which are denoted by x . Of the constants, b has no effect on the relative values of the weights and is chosen purely for convenience. However, the results are quite sensitive to the values assigned to a and c . The weighting schedules for a range of constant values is shown below for prescription values 1.00 through 12.00 diopters, in one diopter intervals. Weighted-average prices are calculated for the end values of the range in making price comparisons.

Y

<u>X</u>	<u>W₁: a = 2, c = 2</u>	<u>W₂: a = 3, c = 1</u>
1	22.631	243
2	16.000	81
3	11.315	27
4	8.000	9
5	5.657	3
6	4.000	1
7	2.828	0.333
8	2.000	0.111
9	1.414	0.037
10	1.000	0.012
11	0.707	0.004
12	0.500	0.001

The pattern in column one is such that far less importance is assigned to the lower power lenses than is the case in column two. This explains why any company has higher average prices under this set of weights than under the other. The derivation of these weights is discussed more fully in Appendix B to this chapter.

Price lists are unwieldy material to describe and the main value of calculating weighted-average prices is to permit their being dealt with in summary form. In this instance, the convenience is somewhat diluted by the need to calculate two weighted averages in order to guard against misleading results.

Turning to Table 8, there are three firms with wide national representation - Bausch & Lomb, Imperial and Kahn. Bausch & Lomb and Imperial have similar price divisions and in general their prices are close, particularly in the lower powers where there is the greatest concentration of prescriptions. Nevertheless, because of the price division differences which do exist, price comparisons are somewhat sensitive to the structure of weights which is used. The only lens type for which an unequivocal comparison is possible is single-vision sphero-cylinders where Bausch & Lomb is cheaper for all spherical powers within a wider cylindrical range. Price comparisons between Kahn and other laboratories are more sensitive to the distribution of weights which is used since Kahn employs the widest price divisions in the industry. Even so, it is evident that the difference between Kahn's prices and those of the other laboratories cannot assume large percentage values since their prices are fairly close for the lower powers. The overall weighted means presented below demonstrate their sensitivity to the pattern of weights employed.

	<u>Bausch & Lomb</u>	<u>Imperial</u>	<u>Kahn</u>
	\$	\$	\$
W_1	11.94	12.10	12.00
W_2	10.55	10.54	10.91

The prices in row one are considerably higher because there is less concentration of weights in the lower price divisions. However, the important consideration is the effect of varying weights on the laboratories' relative positions. There is only a minor change between Bausch & Lomb and Imperial, from virtual parity to 1.3% difference in favour of Bausch & Lomb. Comparing Kahn and Imperial: there is a total change of 4.2% from a 3.4% difference in favour of Imperial to one where Kahn is cheaper by 0.8%. It is unlikely that the move to different price divisions on the part of Bausch & Lomb and, more particularly, Kahn, was also an attempt to reduce prices in a significant way below those of Imperial.

The conclusion is supported by the evidence of Mr. Kahn:

We have examined this price list [Kahn's] carefully, and we examined it by taking one month's worth of invoices for different areas in Canada, and we priced those invoices using our price list and then using a major competitor's price list and then we compared the final cost to our customer. We felt that we had to know this and know this precisely, when we went out with a new price list into the marketplace. They were extremely close.⁴

A 1975 price catalogue was not obtained for AOCO, the other company with wide national representation. Although there were a number of small differences between the AOCO and Imperial price lists in 1974, overall their prices were very similar. AOCO issued three price lists in 1976, one for British Columbia, one for Quebec and the remaining one for the rest of the country. Price differences in various regions can be dealt with in other ways such as the employment of flexible discounts which are adjusted to meet competitive conditions, which is a policy, as discussed earlier, that is followed by AOCO. The overall average prices in the three price catalogues were calculated for the power range plano to 7.00 D with the weights associated with W_1 . Treating the average price in the Quebec catalogue as 100, the corresponding price in "other regions" was 108.0 and in British Columbia, 114.3.*

* For the weights associated with W_2 the respective price indices are 108.1 and 114.4.

A noteworthy feature of the 1976 AOCO price list is the use of relatively wide divisions. The ranges used in the three catalogues are identical. The divisions in spheres are plano to 4.00 D, 4.25 to 7.00 D, 7.25 to 12.00 D and 12.25 to 20.00 D. In cylinders and sphero-cylinders the divisions are plano to 3.00 D, 3.25 to 6.00 D, and over 6.00 D.

As shown in Table 5 of Chapter V, Eastern and Imperial account for a very large share of sales in the Atlantic Provinces. A comparison of their price lists reveals some areas of price difference. The most striking area of difference is in bifocals, where Eastern is clearly higher priced independently of any reasonable weighting system.* The differences for comparable lenses range from one per cent to almost ten per cent, always in favour of Imperial. Where there are like categories in single-vision lenses, which is the case in the first two divisions, the prices are the same except for sphero-cylinders in the second division, where Imperial is somewhat cheaper. The higher power lenses cannot be compared directly because of the unequal power divisions used. Although the percentage price differences are fairly modest, it is nevertheless of interest to obtain estimates of the degree of difference in overall prices.

Based on W_1 , Eastern's overall weighted-average price is \$11.92 as compared to Imperial's \$11.94. Imperial's cheaper prices for bifocals are offset by its higher average prices for single-vision lenses. For W_2 , the steeper weighting system, Eastern's overall weighted-average price is \$10.67 and Imperial's is \$10.54,** a difference somewhat in excess of one per cent. The price comparisons obtained from the two weighting systems confirm Mr. Casson's statement that "Eastern . . . follow the same basic price list as we do . . .".⁵

* Eastern's prices could conceivably work out cheaper if the great bulk of prescriptions were in the 6.25 to 7.00 D range.

** The relatively large weights attached to the first and second divisions swamp any differences in the higher divisions for single-vision lenses and the weighted-average prices for spheres and sphero-cylinders are virtually the same.

Eastern's volume discount structure is more favourable to customers whose purchases fall between \$833 and \$2,000. The advantage ranges from three to five per cent, with the larger figure enjoyed by dispensers providing monthly volumes between \$1,668 and \$2,000. The larger Eastern discounts would tend to more than offset Imperial's marginally lower overall average-weighted prices found when the second weighting scheme was employed. However, dispensers providing annual volumes of less than \$10,000 to a single laboratory would find Imperial cheaper by reason of its discount structure.

There are a number of lens categories for which it would pay customers to split purchases between Imperial and Eastern on Mr. Casson's reasoning, which applied to the difference in power ranges between Kahn and Imperial. It is doubtful that savings so attained would offset the costs from such a practice.

Garnett is another laboratory based in the Atlantic Provinces. This firm follows the Bausch & Lomb price list and thus there is very little difference between Garnett's published prices and those of Imperial and Eastern. Any price advantage Garnett might seek against its larger rivals would have to come in the form of higher discounts for comparable volumes of business.*

One of the more important competitors in Manitoba is Central Laboratories. Except for a small variation in sphero-cylinders it has the same price divisions as Imperial but its prices are lower for all lens categories. Central's overall weighted price averages are 11.7 per cent (W_1) and 8.6 per cent (W_2) less than Imperial's. No information was provided by Central on volume discounts. It only states that a one per cent discount for rapid payment was given. Assuming that Central offers no volume discounts when compared with the national laboratories, it would still offer some price advantages to customers providing less than \$1,300 to \$2,000 volume per month.

* The Commission has used its discretion in reporting the discount structure of individual firms revealing this information during the course of the market shares survey.

Oakley is another laboratory in Winnipeg. It relies heavily on the volume generated by its affiliated retail operations. Its price list is patterned after Bausch & Lomb's. Apart from a minor exception its prices are noticeably lower than Bausch & Lomb's. Its overall weighted-average prices are \$11.12 and \$9.68* which compare to Central's corresponding averages of \$10.62 and \$9.67.** Based on the first measure Central's price advantage is almost 2.5 per cent. However, Oakley's discount policy is not known.

The strongest regional laboratory in British Columbia and Alberta is Hudson, a subsidiary of Imperial. There are some differences in price for several lens categories. The overall averages, however, are virtually equal with one weighted measurement and Hudson is 1.6 per cent higher with the other. A price disadvantage of this magnitude is more than offset by more favourable volume discounts offered by Hudson. These are between two and five per cent more than those offered by Imperial for customers making purchases of \$501 to \$2,000 per month.

Unless AOCO was followed upwards by Hudson and Imperial after it moved to a separate price list for British

* The weighting system W_1 always results in higher average prices than W_2 because the latter places relatively much more weight on the lower divisions, which are priced lower.

** There is a small difference in the scope of what was included in the two sets of averages because Oakley's spherocylinders run plano to 3.00 D in the spheres as compared to plano to 2.00 D for Central. An examination of the constituent parts of the overall average reveals that this discrepancy is not an identifiable source of the higher Oakley averages.

Columbia, it would find itself at a price disadvantage of the order of eight per cent.* It is not known how Hudson and Imperial have responded to the AOCO initiative. It must be assumed that if AOCO was determined to maintain its market share, it compensated its customers for an unfavourable price discrepancy by offering offsetting discounts.

With the exception of several regional laboratories in Manitoba and Ontario, weighted-average prices outside of Quebec are very close. Among the laboratories with wide national representation and important regional laboratories such as Hudson and Eastern the price differences do not appear to be of a magnitude which would cause them to be an important influence in the choice of laboratory.

In Quebec the relatively large number of firms and lower price levels create a very different market environment than elsewhere in the country. It will be recalled that AOCO had a separate list for Quebec in 1976 which was about eight per cent cheaper than for other regions. The overall weighted-average price differences between National, Imperial's Quebec company, and Imperial are smaller, being approximately three per cent.** While the price differences between Imperial and National are fairly modest, there is a marked departure in National's price list from the narrow price divisions maintained by Imperial.

In Quebec, National is a high price firm. In comparison with L'Optique Richelieu, the largest Quebec-based firm, its weighted list prices are of the order of 18 to 20

* Mr. Casson expressed the need for higher prices in British Columbia because of higher costs associated with higher wage rates than in the rest of the country.

** 3.5 per cent for W_1 and 2.2 per cent for W_2 . The comparisons are based on plano to 12.00 D in spheres, following the National price list. The same approach has been used in the text for all save the AOCO price comparisons.

per cent higher overall.* The calculations from the exponential weights are consistent with the evidence of Mr. Custeau of L'Optique Richelieu to the effect that there was a 15 to 20 per cent difference between the prices of his company and those of AOCO and Imperial. However, depending on the volume of purchases of the buyer, a good part of the difference may be offset by volume discounts, which are available from the national companies but not from L'Optique Richelieu. If National's volume discount structure, as reported to the Commission, is firm, most of National's customers would be paying at least an eight per cent premium on lenses.

It is perhaps more important in Quebec than elsewhere to stress that the price comparisons are restricted to lenses. Thirty-five frame wholesalers were reported as selling in Quebec, most of which were small firms with low costs of administration and flexible policies. In the view of Mr. Custeau, there was too much competition in frame distribution. Although the larger laboratories still sold frames, the wholesaling of frames and the sale of prescription lenses were, to a considerable extent, specialized activities. L'Optique Richelieu only undertook the sale of frames after it had been established for about ten years and an old firm such as Maritime, which had roots in the Quebec City and lower St. Lawrence region, had abandoned frame distribution.

The principal import of the fact that some laboratories distribute frames while others do not is that the volumes required to earn a particular discount may make the laboratories with the more restricted product line appear more liberal than they are in fact. A laboratory which does not sell frames (or does so rather unsuccessfully) must offer comparable discounts at relatively lower volumes in order to be competitive in the sale of its lenses. Additionally, as a matter of convenience dispensers may choose to deal with a laboratory from which they can also obtain a substantial part of their frame supply. However, there is no empirical evidence on this.

* For W_1 the difference is 17.6 per cent and for W_2 it is 20.2 per cent.

The overall weighted-average prices, net of volume discounts, of a number of Quebec laboratories are presented below in tabular form. The volume discounts applied were provided to the Commission, either during the appearance of witnesses or, in most cases, in response to the questionnaire survey. Most Quebec laboratories that reported giving volume discounts said that a single percentage was available above a specified monthly volume. Where discounts to individual customers were reported the most frequently offered one was used in preparing the calculations which follow. Figures of five and ten per cent were used for National, which probably covers most of their steady customers. A cash discount of two per cent was applied for L'Optique Laviolette, L'Optique Richelieu and Vilico, which is the only reported discount they allow. This discount is built-into the volume discounts of the other firms. For ease of comparison the results have also been converted to percentages, with the lowest price, that of Laviolette, given a value of 100. Expressing the results in this way shows that the relative prices and ranking of these firms are stable across the range of weights used.

	$\overline{W_1}$		$\overline{W_2}$	
	\$	%	\$	%
Laviolette	8.20	(100.0)	7.21	(100.0)
ABC	8.77	(107.0)	7.73	(107.2)
"L.R."	9.22	(112.4)	7.95	(110.3)
Gilot	9.56	(116.6)	8.19	(113.6)
Richelieu	9.62	(117.3)	8.25	(114.4)
Maritime	9.71	(118.4)	8.34	(115.7)
National				
5% discount	11.11	(135.5)	9.79	(135.8)
10% discount	10.53	(128.4)	9.27	(128.6)
Vilico	11.26	(137.3)	9.93	(137.7)

Quebec is too large to be considered as a single market. As in the retail trade in urban locations, there are a number of interconnected smaller markets. The degree to which market forces are transmitted is affected by whether there is a single firm with a uniform price structure operating across all sub-markets. While it would be too

much to say that L'Optique Richelieu fulfils this role, it comes close. The experience of this firm, Mr. Custeau said, was that its principal competitors were Imperial and AOCO, but it also depended on the region: in Trois Rivières the principal competitor would be Laviolette; in Chicoutimi it would be Iris. Thus the impact of Laviolette's low prices would be restricted as to firms (principally L'Optique Richelieu) and geographic area. The next three firms in the preceding table are Montreal-based, as are Vilico and National. Maritime and L'Optique Richelieu would meet mainly in the Quebec City area. There is no information on why Vilico maintains such high prices in Quebec. Its stance in that province is not consistent with its policy of granting volume discounts for sales through its Toronto affiliate, Superlite.

Smaller firms tend to have lower prices than the national firms. This pattern is found throughout the country, but is most evident in Quebec where there is a sufficient number of smaller, regional firms to have an impact on overall prices. The disparity of prices in the same geographic region, which occurs both in Quebec and in Ontario, indicates that dispensers hold fairly strong preferences about which laboratory they choose to use. These preferences may be associated with perceived quality or service differences. There is no indication that customers of smaller firms experience more quality problems than those of large ones.

There are three firms in Ontario covered in the survey which operate laboratories solely in Ontario: K & W, K & H and Venasse. K & W operates a relatively large laboratory in Kitchener. Its pricing structure is identical to that of Kahn over the power ranges used in calculating weighted-average prices. The laboratories of K & H (Toronto) and Venasse (North Bay) are considerably smaller than that of K & W. The price divisions of K & H and Venasse conform to those of Imperial and Bausch & Lomb respectively.

K & W's weighted-average prices are approximately three per cent lower than Kahn's.* However, Kahn's discount

* For W_1 the difference is 2.7 per cent and for W_2 it is 3.3 per cent.

structure favours customers with monthly volumes in excess of \$500, with the advantage ranging from two to five per cent. There is thus little difference in the overall terms offered by these firms.

Venasse is one of the few small firms which did not price below the national firms. Its price divisions followed Bausch & Lomb's and prices were identical in the lower divisions and somewhat higher in the upper divisions (perhaps in recognition of the point discussed later, that the higher divisions tend to be underpriced). Since its volume discounts are more favourable than those of Bausch & Lomb, Venasse may be marginally cheaper for some customers, and particularly those with monthly volumes in excess of \$1,500. In comparing the situation of Venasse with that of other smaller laboratories one conclusion that emerges is that what it takes for a smaller firm to be competitive depends on the distance of its closest competitors.

In contrast, K & H in Toronto offers prices well below those of the national or large regional firms. Apparently in lieu of volume discounts its price catalogue shows the statement "20% Discount Showing". It is not known how the pre-discount prices were determined. A comparison of individual prices with those of Imperial whose price divisions are used, does not show a constant percentage difference although the K & H prices are consistently much lower. A comparison of the weighted-average prices indicates that a 20 per cent discount off Imperial prices would make the K & H and Imperial prices almost equal. For W_1 the K & H price (\$9.47) is 78.3 per cent of the Imperial weighted-average price (\$12.10) and for W_2 it is 80.7 per cent (\$8.51 versus \$10.54).*

Price Structure

One of the questions raised during the course of the inquiry concerned the structure of laboratory pricing and the

* The weighted-average prices were calculated from the Kahn pricing structure in order to facilitate comparisons with K & W. It makes no difference to the results which pricing structure is used except that the use of a structure with wide divisions means that a wider range of powers is included in the price average.

extent to which the price breaks for the various divisions could be related to corresponding changes in costs. It arose in the context of a comparison between stock lens prices and laboratory prices since the major difference between the two is that most lenses sold by the laboratory are already assembled with the frame.* The AOCO stock lens price to dispensers for spheres when fifty pairs of assorted lenses are purchased in a single order is: plano to 2.00 - \$2.00; 2.25 to 4.00 - \$2.30; 4.25 to 6.00 - \$2.50; and 6.50 to 8.00 - \$2.80 (June 1976 catalogue). The difference in price from the first to the fourth division, spanning plano to 8.00 diopters, is eighty cents. (When purchases are in larger quantities or made by buyers classified as wholesalers, the difference is reduced to fifty-five cents.) The corresponding laboratory prices charged by Imperial, which is not unrepresentative of firms that use numerous price divisions, are \$6.40, \$7.40, \$8.40 and \$12.80 for the corresponding divisions, with the single difference that the fourth division runs from 6.25 to 9.00 diopters. When purchased at prescription prices from a laboratory, the price difference between each of the first three divisions is a dollar as compared to twenty or thirty cents when they are purchased as stock lens.

The large difference in laboratory prices between the third and fourth divisions can be traced to the unavailability of the full range of powers in stock lenses beyond 6.00 diopters.** In the event that the lenses are not in stock, they can only be obtained at laboratory prescription prices. Before comparing the laboratory and stock lens prices of cylinders, it is relevant to note that sphero-cylinder lenses are available as stock lenses only up to 2.50*** in cylinders and only over a narrow range of minus spheres.

* However, some laboratories in Quebec sell only uncut lenses, and laboratories usually allow a deduction of two dollars per pair when so purchased.

** Minus lenses are available from AOCO in one-half diopter steps from 6.00 to 8.00 diopters and plus lenses from 6.00 to 7.00.

*** The 2.50 lens would qualify for a prescription value of 3.00 diopters.

The laboratory and stock lens prices are shown below for sphero-cylinder lenses that are plano to 2.00 in spheres. The stock lens price that applies to a purchase of fifty pairs of lenses is used.

<u>Cylinder</u>	<u>Laboratory</u>	<u>Stock Lens</u>
	\$	\$
0.12 - 2.00	8.60	2.70
2.25 - 3.00	9.80	2.95
3.25 - 4.00	12.60	N/A

The difference in the laboratory prices of the first two divisions is \$1.20 compared to a twenty-five cent difference in stock lens prices. Beyond 3.00 diopters, the laboratories need to grind to individual prescriptions and this explains the sharp jump in price between 3.00 and 3.25 diopters.

As already indicated, the laboratory cost structure for lower power lenses, which is closely aligned with stock lens prices, does not correspond closely to laboratory prices. The difference in the levels is greater than is likely to be explained by edging costs, noting that only two dollars are generally allowed by laboratories when lenses are purchased uncut and that handling costs can hardly make up the remaining difference. Equally important is the fact that the laboratory price steps far exceed those for stock lenses. A comparison with three* United States price catalogues shows that both Bausch & Lomb Inc. and American Optical Corporation have very wide divisions, with their first division running

* No systematic attempt was made to collect United States price catalogues. Requests were made of the two United States firms with Canadian operations during the course of the Hearings and a third firm, Eye Kraft Optical Inc., which advertises regularly in the *Ontario Optician*, was approached through the mails at the conclusion of the Hearings.

up to 6.00 D.* Eye Kraft Optical Inc. in a catalogue dated 1976 shows even finer gradations than Imperial does on spherical lenses, but with the price steps in close correspondence to those for stock lenses.**

Mr. Casson was asked about whether in his experience "the cost structure at the lab level is accurately reflected in the price structure?"

- A. We would say definitely no. The high powers are too low and the low powers are too high for the cost. In other words, in my opinion, based on what our lab people tell us, that first division six-forty might well be four-fifty to \$5.00. It is 10 to 20 per cent too high. This cataract lens down here, say at twelve, with a 2-1/4 to 3, which is a typical cataract lens, sells to the wholesaler, twenty-three-eighty and probably should be \$38.00.

* Up to 6.00 D is described as the "stock range" for spheres and the price division is based on whether lenses come from stock or require surfacing; there is also a single price for all single-vision spheres, save for aphakic lenses, which require surfacing. (Catalogue dated January 1976 for Bausch & Lomb and December 1976 for four regional American Optical catalogues.)

** The divisions and the corresponding prices are: plano to 2.00 - \$6.15; 2.25 to 4.00 - \$6.50; 4.25 to 6.00 - \$6.80; 6.25 to 7.00 - \$7.10; 7.25 to 8.00 - \$8.00 and up to 10.00 diopters in glass. (Higher powers such as might be used for post-cataract operations are sold in plastic.) It is only after the focal powers exceed those available in stock lenses that the price jumps exceed thirty and thirty-five cents. Bifocal prices are independent of the prescription values.

It is away too low.* We probably lose money on every cataract job we sell.

Q. Am I to interpret your reply somewhat as follows: that lenses that are sold under the RX price list, that are mass produced in the factory and are just edged, tend to be over priced and ---

A. By the prescription.

Q. And those lenses that are produced and surfaced within the lab, well, surfaced on the [one] side, tend to be underpriced, is [that] the generalization?

A. That's right. It is a very dangerous position for us to be in, you see because that encourages anyone to do their own edging of all the stock surfaces which are overpriced in our prescription list. You see, that comes back to your question about justifying the two-thirty lens up to six-forty. That \$4.10 is quite a bit of money for edging a lens.

I think one day we will have to face it and reduce those prices at the bottom level, but then we will have to increase it and the high lenses are a pretty high cost already, and if you increase them some more ---⁶

Elsewhere in his evidence Mr. Casson noted that the "basic concept of prices was in existence before I was in the business." He also said:

I could not begin to justify and say 2 diopter lenses at six-forty and selling a 2-1/4 lens at seven-forty. There is not a dollar difference between those two, but you have to establish your prices somewhere and then have your overall end result come out to a reasonable solution.⁷

* Mr. Adamson of King Optical also stated that the higher power lenses were underpriced.

The first large laboratory to move away from what Mr. Casson described as the traditional price structure in Canada was Kahn Optical. According to Mr. Kahn, this was done in 1973 or 1974 with the introduction of fewer price divisions (or "average price"). The first division became plano to 4.00 and the second division 4.25 to 10.00. They had considered making their first division plano to 6.00 but had not done so, "because it would have made our first division price too high and quite often in comparing prices our customers look only at the first division prices." Mr. Kahn added that they had probably been too timid. Mr. Casson had mentioned another effect of price averaging: laboratories become vulnerable to customers who purchased low power lenses from firms with narrow price divisions and high power lenses from those with wide ones. Mr. Kahn said that he was aware of only one customer who followed such a practice. Volume discounts and the time and bother involved may lead dispensers to avoid dealing with more than one laboratory at a time.

The reasons for moving to fewer price divisions, according to Mr. Kahn, were that it was helpful to the dispenser "in making his quotation [to clients]. It also helps us, our pricing at the invoicing level, the clerical work is greatly simplified and there are hopefully fewer errors." Sometime around 1976 AOCO also changed to fewer divisions and, according to the information of Mr. Casson, the decision to do so had been taken in order to simplify invoicing. While agreeing that a simplified price structure had this result, Mr. Casson believed that Imperial could educate its personnel to deal with the numerous price divisions in the Imperial price catalogues.

The relationship between the cost and price structures is important because of what it suggests about the competitiveness of markets. Under highly competitive conditions, a divergence between the two is likely to result in one or another firm changing its prices to bring them into closer conformity with costs. There are obviously important differences between the traditional price structure, as referred to by Mr. Casson, and the laboratories' cost structure. However, prices divided into few divisions also do not conform to costs and there is thus systematic price

discrimination in favour of buyers of lenses at the high end of a division and against those at the low end. Such systematic price discrimination is not inconsistent with competition where there are cost or convenience benefits associated with a simplified price structure,* as there appear to be in the case of laboratories.

The substantial difference between stock lens prices and laboratory prices encourages dispensers to do their own finishing. However, the carrying on of this activity cannot be tied exclusively to price disparities. Some dispensers choose to do their own edging because this permits them to provide faster service. Dispensers with much free time might choose to do their own edging even if the cost difference between prescription and stock lens prices was equal to the cost to the laboratory of providing finishing services. Even if dispensers choose not to do their own finishing, they have the option of hiring an employee, perhaps in partnership with one or more colleagues. The importance of this source of competition to the laboratories depends on how many dispensers are willing to undertake finishing primarily because they are sensitive to cost savings. Here, as elsewhere, an important factor that must be taken into account is the reduction in volume discounts. It is not known whether the "entry" of dispensers into edging has played any role in restraining laboratory prices. In any event, such actual and potential entry has not prevented a wide divergence between laboratory prescription prices and stock lens prices in most parts of the country.

The failure of prices in Quebec to conform more closely to costs, as established by stock lens prices, is somewhat surprising in so far as laboratory pricing from other standpoints is very competitive.

Where prices are established by competitive tender, in government and industrial purchasing, there is a tendency to use a single price for all single-vision lenses and a separate price for all bifocal lenses.

* An example of this is the uniform price for coffee in a restaurant regardless of whether customers add sugar or cream.

Sales to the Federal Government

The Federal Government's Department of Supply and Services (DSS) buys ophthalmic goods for six major departments of the Government on the basis of requisitions from those departments. Purchasing is performed on a regional basis because of the service element involved. The instrument used in these purchases is a regional individual standing offer (RISO) which consists of an offer by a supplier to provide upon request goods and services up to a stated dollar limit. It therefore outlines potential usage only, for the amount actually purchased may be any amount as long as it does not exceed the total value stated in the RISO.

The tendering system used by DSS functions on the basis of a list of potential suppliers called a "source list". Each of the regional offices of DSS has one. They are drawn up by geographical areas, one for each of the fifteen cities in which DSS has a purchasing office.

There are several methods whereby the name of an optical goods firm could be placed on a source list. Any person in the ophthalmic goods industry could ask to have his firm's name placed on it. If such initiative does not result in the desired number of names on a source list, DSS may place advertisements in newspapers or it may approach firms to interest them in tendering. DSS officers take this approach if there are only one or two suppliers on a source list when there are three or four potential suppliers in the area in which tenders are to be called.

DSS submitted its source lists for ophthalmic goods for purchasing centres across Canada to the Commission. Dispensers as well as laboratories are shown; the number of firms varied from two (as in Victoria, British Columbia, Abitibi, Quebec, and Quebec City) to fourteen (as in Toronto). In some instances firms whose names were on the same source list were related, e.g., Hudson and Imperial in Calgary.

Technical specifications for the frames, lenses and replacement parts are set out in the Invitations to Tender and again in the RISOs. So are what might be called the business specifications of the transactions. There has been

some variation over time in the business specifications. Those covering fitting services, for example, have become somewhat more detailed and specific in some of the more recent RISOs according to the evidence before the Commission. The evidence indicates some variation also occurs in business specifications of different departments. The customer department indicates the tolerances that it will accept with regard to conformity to technical specifications. It also indicates the places at which services are to be provided. For example, the Department of National Defence has the following provisions relating to the quality of products and services:

the goods are subject to lensometer and other tests by the authorized medical officer;

the contractor must certify that he has tested the lenses and that they conform to the prescriptions and to the tolerances stated in them;

prescriptions are to be filled and despatched within 72 hours of receipt;

the hours of service and standards of service must be equivalent to those provided to regular customers.

After it has invited tenders, the Department of Supply and Services receives sealed bids and assesses them. It awards a RISO to the bidder offering the lowest aggregate cost, provided that his tender meets the specifications, delivery requirements and other items detailed in the tender. If no one bidder submits the lowest prices for each lens category, assessment must involve the weighting of the prices bid by each tenderer by the customer department.

If the customer department requires that the supplier have service outlets and the tenderer is unable to provide service at the specified geographic points, the award could then be made to the second lowest bidder if the latter had the required service facilities. Under one tender call the lowest bidder was awarded a RISO for those areas in which he could provide service while the second lowest bidder received a RISO for the remaining areas, in which he was able to provide service.

About one-third of the number, and almost one-fifth of the aggregate value, of the RISOs for ophthalmic goods were made on the basis of one bid only. These are referred to as "negotiated" contracts. In such cases DSS applies a regulation which provides that the federal government must receive a price equal to and not more than the best price offered by the tenderer to any other type of customer.

Mr. Dalby of Imperial testified that if Imperial had service facilities in the area covered by an institutional contract Imperial would undertake the required dispensing; in an area where Imperial had no dispensing facilities, it would make arrangements with an optometrist or optician to undertake the dispensing for the contract for that area. He said that under a government contract held by the company's Regina laboratory, patients received their spectacles directly from that laboratory. Similarly, he indicated that Imperial's Thunder Bay laboratory did a small amount of contract work and that persons served under contract could have their glasses fitted there. Mr. Casson of Imperial said that his company's RISOs with the Department of National Defence in Nova Scotia were serviced at the Imperial branch closest to the base.

There was also testimony to the effect that a number of years ago, under certain contracts, no fitting or adjustment at all was undertaken when a patient came into a laboratory to pick up glasses. Mr. Michael McKiernan, laboratory manager for Acadia Optical of Halifax, testified that when he had worked in AOCO's Calgary laboratory a number of years before, there had been no qualified optician in it to fit and adjust spectacles and that there was no check on the work done on the government contracts. He indicated that the situation had changed: at present government contracts contain stipulations with regard to dispensing. The latter aspect of Mr. McKiernan's evidence is borne out by the documentary evidence which shows that the specifications relating to the fitting of spectacles have become more precise and elaborate and obviously are intended to eliminate doubt as to service requirements.

Obtaining adequate fitting services is a particular problem when eyeglasses are supplied to Indians by the Medical Service Branch, Manitoba region, Department of National Health and Welfare. The question arises mainly in connection with patients in remote locations to which access is limited and

with which communication by radio-telephone also is limited. Under these circumstances the glasses are sent by the supplier directly to the client, following the receipt of a prescription written by a visiting ophthalmologist or optometrist. The despatch of spectacles by mail is not likely to be so timed that the glasses arrive at their destination at the same time that an optician or an optometrist arrives to undertake a final fitting and check and, if necessary, to send the glasses back to the laboratory for adjustment. It is more likely that this final check is omitted. It seems clear, therefore, that some glasses must be provided without the check for conformity to specifications, for visual efficiency, and for ordinary comfort which an independent professional could make.

Another problem, that of a suitable range of frames, was dealt with by consultation between the Medical Services Branch of NH&W and representatives of the Indian Brotherhood, resulting in the provision of a wider selection of frames from which patients might choose, although some patients still apparently do not find frames they like.

As of July 1975, there were 50 RISOs in effect with a total value of \$609,150: AOCO held 19 totalling \$260,200; Imperial, 16, for \$206,200; and the remainder was divided among 12 other firms. AOCO and Imperial's shares of the "negotiated" contracts (these contracts totalled \$110,450) was 74.9 per cent, about the same as for all RISOs.

As is true of the industrial or safety lens field, many laboratories do not participate in government tenders or are not committed in a serious way to that market. Bausch & Lomb, for example, occasionally bids on government contracts but did not hold any at the time Mr. Curran, president of the company, gave evidence. One of the considerations in Bausch & Lomb's decision to bid would be its success in making satisfactory arrangements for dispensing, since it does not have affiliated dispensing firms. Two other witnesses did not feel that they could bid successfully against the large integrated firms.

The prices which Imperial bid on government contracts depended upon the contract and upon the customer department. Since a dispensing outlet might sell a more expensive frame

than specified in the contract or attract the prescription of other members of the family, the contract's potential to bring in extra business was specified by Mr. Casson as a factor which influenced Imperial's pricing.

A second factor mentioned by Mr. Casson was whether the company branch which would handle the contract was busy or not. He said that Imperial bid its lowest prices on contracts for its Halifax branch because that branch made money when it had a government contract but lost money when it did not have one. Similarly, Mr. Bergmann of AOCO indicated that excess capacity was a factor when tendering on government contracts. When AOCO's Halifax laboratory lost a contract with DND, its volume of work was so affected that operations fell below the break-even point. The laboratory was closed subsequently. Mr. Bergmann indicated that loss of a government contract would affect the profitability of some other AOCO laboratories, although not many of them.

The Commission has studied the lens prices secured by DSS for DND under RISOs for varying contract periods ending during the fiscal year 1976. The study was confined to RISOs for DND only, so as to isolate data related to a uniform system of calling tenders.

The Commission has based its study on the weighted averages* of five types of the most commonly used lenses. As shown in Table 9, the weighted-average lens prices were then separated into "competitive" and "negotiated" categories in accordance with DSS's designations of the RISOs.

* Spheres plano to 4.00 and sphero-cylinders 0.12 to 3.00 are assigned a combined weight of 70 per cent and three of the most common bifocals with powers plano to 7.00, an aggregate weight of twenty-nine per cent. (Source: Appendix 10 of Exhibit A-6.) As might be expected the distribution of prescription values for DND personnel is not the same as that for the general population.

TABLE 9
AVERAGE LENS PRICES - DND RISOs
PERIODS ENDING IN 1976

Supplier	Service Site Location(s)	"Competitive" Contracts	"Negotiated" Contracts	Fitting Fees*
Martin Menke	Ottawa	\$ 8.06	\$	\$
Nelms-Raymond	Pembroke		15.92	2.00
L'Optique Richelieu	St-Hubert, Lac St-Denis	8.82		5.00
L'Optique Richelieu	Saint-Jean	8.82		2.00
Lucien Morin	Val-d'Or, Senneterre		15.10	2.00
Cie d'Optique Iris	Bagotville, etc., Quebec		11.09	3.50
AOCO	Valcartier, Quebec	9.85		4.00
AOCO	Halifax, Sydney	6.84		4.00
Imperial	4 bases in Nova Scotia	8.67		5.00
Imperial	Summerside, P. E. I.		8.81	7.00
Imperial	3 bases in New Brunswick	5.72		7.00

SOURCE: DND RISOs

* In most RISOs the charge for fitting bifocals is the same as for single-vision lenses. Where there are different charges the figure for single-vision lenses is used. There are higher charges for bifocals, ranging from \$1.50 to \$2.00 in the Imperial RISOs for Summerside, 3 bases in New Brunswick and the AOCO RISO for Halifax and Sydney.

The average prices in Table 9 indicate a wide range of "discounts" from prescription prices in laboratory catalogues. The calculation of the discounts depends on how lens hardening is treated. Imperial's catalogue price for heat hardening single-vision lenses was \$2.00, for bifocals \$2.80. Mr. Casson explained that Imperial could undertake heat hardening of lenses very economically. The incremental cost to a laboratory, once it has the necessary equipment, appears to be very small in relation to the charges for the service. In recognition of the possibility that a firm might be willing to harden lenses without charge in a highly competitive market, one set of discounts was calculated assigning a zero laboratory price to lens hardening. The full laboratory price was included in the second set of calculations.

For the three competitive standing offers awarded to Imperial and AOCO in the Maritimes the discounts far exceeded the volume discounts awarded to large buyers. For the three standing offers combined, the median discount for three important lens types (spheres plano to 4.00, spherocylinders 0.12 to 3.00 and flat top spheres plano to 7.00) was 46 per cent when lens hardening is assigned its catalogue price. When it is assigned a zero value the median discount is 36 per cent.

Although there is some overlap between the average-weighted prices of competitive and negotiated contracts, three of four negotiated prices exceed all of the competitive prices. When fitting fees are included all of the negotiated prices are higher. Also, even though the lens prices in the Maritimes are, on average, lower than in other areas shown in Table 9, the considerable disparity in fitting fees precludes drawing the conclusion that the cost of spectacles to DND is lower in the Maritimes; the situation may in fact be reversed.

The quality of the finished spectacles is the responsibility of the customer department which takes up with the supplier any questions of inadequacy in goods or services supplied; only if there are difficulties is DSS brought into the picture. In the view of the officers of DSS who gave evidence the quality of the products purchased under the RISO system was satisfactory since they had received no complaints from the customer departments.

Mr. Casson said that Imperial used first quality lenses on government contracts and denied that Imperial had a lower standard of lenses for government work. But he said that there was no real government check on quality as a regular procedure.

For his part Mr. McKiernan denounced the quality of work done on government contracts, terming it at various points in his testimony as "poor" and "atrocious". In particular he criticized the work done in AOCO's Halifax laboratory and in its Calgary laboratory, where he had been employed. In his view the tendered prices were so low that there was no room for error and if one occurred it was not corrected. Two factors must be borne in mind when one considers Mr. McKiernan's testimony about the AOCO laboratories: the remarks apply to periods several years in the past, with those relating to AOCO's Halifax laboratory, for example, being pertinent to 1972. His severe criticism of work done under government contracts was part of a rather sweeping condemnation of the quality of optical laboratory work in Canada in general. Although he named several laboratories which he said produced good work, he claimed that the standards of quality of finished spectacles fluctuate wildly in Canada.

Similarly, Mr. P. L. Sudderdean, an optician in Grand Falls, Newfoundland, claimed that the quality of work done for the Department of Veterans Affairs had been unsatisfactory when performed by Imperial and later by AOCO. According to him the situation was cleared up by the Newfoundland Optometrical Board.

APPENDIX A

Kahn's volume discounts rise in three steps, reaching 10% on purchases in excess of \$1,300/month. Imperial allows 2% on purchases up to \$1,000/month and 5% on purchases between that figure and \$2,000/month. Any splitting of purchases which results in the 2% discount being received from both Imperial and Kahn rather than 5% from one of them results in a cost of 3% on all purchases. In this case, even with price differences of the order of 10% over part of a price division, it pays the customer to limit purchases to a single source. When the splitting of purchases results in a transfer of some purchases from the 5% discount range to the 2% range, the 3% difference falls only on the volume of purchases transferred. Other possibilities can be worked out in which the splitting of purchases results in volume being sufficiently reduced so that movement to a higher discount level is prevented, as occurs in the first case. It is obvious that price differences would have to be very wide indeed to justify the dividing of purchases when doing so means foregoing a discount of 10% on all purchases as compared to 5% on most and 2% or 5% on the remainder. While it can be argued that the customer can always prevent a movement from one discount category to another by monitoring his purchases, the strategy entails other types of costs which are considered in the text.

APPENDIX B

The weights used are derived from the equation $y = b/a^{x/c}$, where y denotes the number of prescriptions for each prescription value and x denotes prescription values. The letters a and b and c are constants. The value of b is selected purely on grounds of convenience after the other values have been chosen; it has no effect on the outcome and allows for easier-to-work-with weights. However, the selection of the other values does have an effect on the weights derived. The rate at which the weights decline is very sensitive to the value chosen for a and whether the power term is modified by multiplying x by a value greater or smaller than one.

The precise values which might be selected for a and c are debatable since it cannot be demonstrated that they are more consistent with empirical evidence than other plausible values. However, the assumed values discussed below are not totally arbitrary. Any other values which result in a much more rapid decline in weights are unlikely to be consistent with the fact that stock lenses in spheres are produced in one-quarter diopter steps up to 6.00 diopters and beyond this value, in one-half diopter steps up to 8.00 diopters in minus lenses; (only up to 7.00 diopters in plus lenses). If the true weights were accurately described by the equation $y = b/5^x$ this would mean that, of all prescription values between 0.25 and 8.00 diopters, only one out of every 97,701 would lie between 7.25 and 8.00 diopters. Even a fair-sized laboratory such as one of the Imperial laboratories in Edmonton which completed approximately 200 prescriptions in glass lenses per day would, according to the foregoing, run across a prescription in the 7.25 to 8.00 diopter range once every few years. It would hardly pay to stock lenses for such rarely-encountered prescriptions. The same conceptual experiment for $a = 3$ and $c = 1$ results in one out of every 3,280 prescriptions between 0.25 and 8.00 diopters lying between 7.25 and 8.00 diopters. A laboratory with the volume referred to might receive three or four such prescriptions per year. Without knowing more about the economics of producing stock lenses and the manufacturer and laboratory

costs of holding them for inventory, a value of $\alpha = 3$ cannot entirely be ruled out. Consequently, this value has been used as one extreme in the range of plausible values.

Approaching the problem from the other end of the scale, α must be sufficiently large (or alternatively α must be multiplied to yield the same result) so that the weights change in a substantial way from low diopter values (say 0.25 to 3.00) to high diopter values (say 10.00 to 12.00). Otherwise there would be stock lenses produced for a greater range of values than currently found. While this criterion is far from precise, the minimum required differences are of the order derived from $\alpha = 2$, $c = 2$. Prescription values between 7.25 and 8.00 diopters represent 2.76% of all prescriptions between 0.25 and 8.00 diopters and the Edmonton laboratory referred to earlier would receive somewhat more than one prescription per day. Equally important, the frequency of occurrence of prescriptions in the 8.25 to 9.00 diopter range would be almost one per day as well. It is doubtful whether a rate of decline in weights less steep than that produced by $\alpha = 2$, $c = 2$, would conform to available information on stock lens production.

By reducing c from two to one there is a considerable change in the rate of appearance of higher diopter lenses. With the weights thus modified the laboratory would be expected to encounter a prescription for single-vision spheres in the 7.25 to 8.00 diopter range about once per week and in the 8.25 to 9.00 diopter range bi-weekly.

Unfortunately the range of values which are consistent with the constraints discussed is sufficiently wide so that considerable swings in average prices are possible, depending on the values of α and c selected. The extent of the differences is illustrated below for three cases: $\alpha = 3$, $c = 1$; $\alpha = 2$, $c = 1$; $\alpha = 2$, $c = 2$. The assumed values are applied to the price lists of Kahn and Imperial for spheres in single-vision, and for krytok and executive bifocal lenses.

	$\alpha = 3, c = 1$	$\alpha = 2, c = 1$	$\alpha = 2, c = 2$
	\$	\$	\$
<u>SINGLE-VISION</u> <u>SPHERES</u>			
Imperial	6.53	6.78	7.60
Kahn	6.94	7.08	7.55
<u>KRYPTOK</u>			
Imperial	11.81	12.33	13.74
Kahn	12.67	12.94	13.84
<u>EXECUTIVE</u>			
Imperial	18.49	18.96	20.22
Kahn	18.67	18.97	19.84

For $\alpha = 3, c = 1$, Kahn is more expensive by a margin of 6.1% for single-vision spheres, 7.0% for kryptok and about 0.1% for executive lenses. The margin falls to between 4% and 5% on single-vision and kryptok lenses for $\alpha = 2, c = 1$. For $\alpha = 2, c = 2$, the widest difference (1.9%) is in the executive lenses, with more or less offsetting differences in single-vision and kryptok lenses. Because Kahn uses wide divisions the changes in Kahn's average prices are much less sensitive to changes in α and c than are those of Imperial.

From the available information it is impossible to derive a sufficiently narrow band of weights which can be used to determine whether Imperial or Kahn has lower average prices, or how their prices compare to those of Bausch & Lomb which uses its own price divisions. It is important to note that the swings in the Imperial-Kahn average price differences are as wide as any which can be expected since Imperial employs the narrowest price divisions (in common with many other laboratories) and Kahn the widest. Thus the importance of which values of α and c are selected is likely to be less for laboratories (or retail outlets in the next chapter) which use the same or similar price divisions.

It is believed that the use of the formula $y = b/a^{x/c}$ can usefully be employed to summarize information which otherwise would be extremely unwieldy; viz. the numerous price lists some of which are presented in Table 8 of the text. To guard against the sensitivity of the results to the use of alternative values for a and c the upper and lower bounds of the weighting scales discussed above are used; that is, $a = 2$, $c = 2$, and $a = 3$, $c = 1$.

Shown below are the weights calculated to correspond from 1.00 to 12.00 diopters, using one-diopter steps.

x	Y		
	$b = 729$	$b = 64$	$b = 32$
	$a = 3, c = 1$	$a = 2, c = 1$	$a = 2, c = 2$
1	243	32	22.631
2	81	16	16.000
3	27	8	11.315
4	9	4	8.000
5	3	2	5.675
6	1	1	4.000
7	0.333	0.5	2.828
8	0.111	0.25	2.000
9	0.037	0.125	1.414
10	0.012	0.063	1.000
11	0.004	0.031	0.707
12	0.001	0.016	0.500

To arrive at a weighted-average price for the four lens types shown in Table 8, the single-vision spheres and sphero-cylinders are given respective weights of 30 and 35; kryptok lenses are given a weight of 15 and executive lenses 20. Since the prices for executive and flat top lenses are usually the same, the executive lens prices represent both lens types.

CHAPTER VIII

THE MARKETING OF SPECTACLES TO CONSUMERS

Opticians

Consumers, it seems, generally do not shop and compare prices when they purchase spectacles. They face difficulties in judging the quality of spectacles and might be expected to be less price-conscious about spectacles than about products which do not fall in the health-care field. In the words of Mr. Bryan Bradbury:

When people are buying something where their health is concerned, they want the peace of mind that they are getting the best product. If someone is buying a parachute and one was advertised for \$59.95 and another for \$75.00, it is very unlikely the person would go and buy the \$59.95 one.¹

In addition, limited consumer information makes it difficult for consumers to make separate price comparisons for frames and lenses. The lack of refined consumer information tends to add to the factors insulating an optician's outlet from the competitive impact of prices charged by other ophthalmic dispensers. The same considerations apply with at least equal force to optometrists.

As is true for most retail outlets, an optician's location is one, if not the most important, of those factors. The choice locations mentioned during the course of the Hearings were medical buildings with ophthalmologists' offices and, in more recent years, probably as a result of the increased importance of frame selection, shopping centres.

Advertising. Approaches to advertising are closely connected to the overall marketing strategy followed, and in particular to the structure and level of pricing adopted. As a general rule, opticians do not employ aggressive pricing practices. To take full advantage of charging lower-than-average prices or of catering to consumers who are more

price-conscious than fashion-conscious, it is necessary to advertise such a policy. Institutional restrictions on price advertising and the failure of most opticians to take advantage of their freedom to price advertise where it exists, suggest that the general practice is not to stress the price of their spectacles in their approach to consumers. Although opticians advertise extensively in daily newspapers and occasionally in other media, it is obvious from a perusal of any daily newspaper that the marketing emphasis is on fashion and frame selection rather than price.

There are, however, several examples of firms which use or have used price advertising. King Optical relies extensively on price advertising as part of its total marketing approach which is oriented toward people who buy glasses on the basis of price. Mr. Adamson found that King's volume is sensitively related to its prices. King utilizes a simplified pricing structure which can easily be incorporated in an advertising message. There is one price for all single-vision lenses and another price for all kryptok and flat top bifocal lenses, with a choice from a given number of frames. Extras, such as plastic lenses, tinting and fashion frames, are not included in the basic price. Thus, except for extras, the consumer knows the cost regardless of the power of the prescription. King does not deal in "boutique" goods. It sells a limited number of basic frames, some of which it has made to order in large quantities. It does not locate primarily in shopping centres, avoids high-priced buildings, and is not generally dependent on passer-by traffic.

Mr. Adamson found the inability to advertise in Quebec was a serious disadvantage and King's outlet in Montreal was less profitable than its outlets in Ontario.

With regard to price comparisons, Mr. Adamson said that for lenses in the lower powers the King price was "at or near the general market level."² However, given that King's price did not vary with the power of the lens, it would follow that its price becomes increasingly favourable the higher the lens power. For lenses, such as are used for post-cataract patients, King absorbs a loss that Mr. Adamson placed at seven or eight per cent. In commenting on King's Montreal outlet, Mr. Adamson said that its prices, which were the same as in Ontario, were 15 per cent lower than its competitors.

Presumably this represents some kind of average since the competitors' prices vary with the power of the lenses. He also said that "in the main" the ranges of competitors' prices in Ontario and Montreal were comparable, an observation not consistent with other information on prices in Quebec and Ontario presented in the following section.

Another company, apart from King Optical, which uses price advertising extensively is Western Optical, a British Columbia company which operates 24 dispensing outlets. The majority of its outlets (19) are London Drug Optical outlets. London Drugs Ltd., a separate company, is a chain of discount drugstores. The name chosen for the London Drug Optical outlets conveys the impression that the discount policy of London Drugs is carried over to the optical outlets. Mr. Hollenberg, President of Western Optical, described the pricing policy of Western:

We have made a big effort to be competitive in our retail prices and in nearly all cases, as far as we can determine, we are lower in the retail price. We have submitted advertisements to reinforce that theory.³

Unlike King Optical, Western does not follow a one-price policy whereby glasses are offered on an everyday basis at a specific price. It tends, instead, to run specials. An advertisement, a copy of which was provided to the Commission by Western, was the occasion of a three-day special: complete spectacles with single-vision lenses were announced as available at \$29.88 and with bifocals at \$39.88. It was noted by Mr. M. Sprackman, who was with the agency that handled Western's advertising:

We have other promotions throughout the year. We almost [always] have a monthly promotion of some nature. This, of course, is the big one and . . . people do really wait for this one.⁴

The marketing policy followed by Western is closer than that of other opticians to the policies of retail outlets selling other types of products.

Two other examples suggest that price advertising is not necessarily an avenue to success. Mr. James W. H. McLean

described his attempt to expand sales by reducing his prices and price advertising. At the time when he gave evidence, he operated four outlets: in Dundas, Hamilton, Guelph and London, and he was not associated with any other optical goods company. The experience referred to occurred in Guelph. Six months after opening, the outlet was in difficulty, largely, as felt by Mr. McLean, because he was not obtaining referrals from the four ophthalmologists there. He advertised in the newspapers, offering single-vision lenses at one price and bifocal lenses at another price. He also advertised on the radio, but he could not remember whether he advertised prices. The prices he advertised were lower than those he previously charged and were 20 to 50 per cent lower than those of his three competitors. He said that there was no change in the quality of lenses sold, but that the frames used were lines that moved less well, that were overstocked or obsolete. Advertising was continued for about nine months without an appreciable change in gross volume.

A former employee of Stewart N. King described an advertised low-price policy that failed in Saskatoon. According to Mr. L. Gendron, a very low, one-price policy for both single-vision and bifocal lenses was put into effect. Mr. Gendron said that the Stewart N. King price was \$10, as compared to about \$16 for low-power, single-vision lenses and \$38 for inexpensive bifocal lenses in a competing outlet. In addition, the prices of Stewart N. King frames were marginally lower. The Stewart N. King outlet remained open for approximately a year, around 1974.

Pricing. Table 10 summarizes the average lens markups of Imperial affiliates, independent opticians and AOCO outlets surveyed by the Director of Investigation and Research, in April 1974, in Edmonton, Montreal and Toronto.*

* The sample selected by the Director was drawn from all opticians' outlets in cities with a population of at least 40,000. However, of the 42 independents successfully surveyed, 26 were located in three cities: Toronto (15), Montreal (6), and Edmonton (5). Similarly, of the 42 Imperial affiliates successfully surveyed, 22 were located in the three cities referred to: Toronto (14), Montreal (3) and Edmonton (5).

TABLE 10

OPTICIANS' PERCENTAGE MARKUPS OVER LISTED LABORATORY PRESCRIPTION PRICES*
IN EDMONTON, MONTREAL AND TORONTO, APRIL 1974

	Single-vision	Kryptok Bifocal				Flat-top Bifocal				Executive Bifocal			
	Sphere: Plano - 2.00 With cyl: 0.12 - 2.00	Plano -2.00	2.25 -4.00	4.25 -6.00	6.25 -9.00	Plano -2.00	2.25 -4.00	4.25 -6.00	6.25 -9.00	Plano -2.00	2.25 -4.00	4.25 -6.00	6.25 -9.00
TORONTO	Independent Opticians	109	114	98	77	64	81	67	59	88	72	68	63
	Imperial Affiliates	153	124	107	97	85	108 ⁺	95	84	101 ⁺	95	93	84
MONTREAL	Independent Opticians	138	135	107	90	75	95	84	67	115	95	93	80
	Imperial Affiliates	191	206	181	159	122	135	124	109	135	124	128	-
EDMONTON	Independent Opticians	199	165	140	124	101	115	107	88	115	107	103	88
	Imperial Affiliates	153	186	148	124	101	128	118	84	128	118	103	84
ALL LOCATIONS	AOCO Outlets	206	135	145	131	128	108	113	114	108	113	113	-

SOURCES: Appendix XI of the Green Book and laboratory price catalogue of Imperial Optical, November 1973.

* In order to obtain ready comparability of markups the laboratory prices of Imperial Optical were used. The implications of the use of a single price source are discussed in the text.

+ Given that executive and flat-top bifocal lenses are the same price for the other powers, it is reasonable to consider that the discrepancy in prices for plano to 2.00 diopters reflects an error in reporting or transcribing.

The markups shown for the various powers apply to a pair of lenses. The prices obtained by the Director have been related to Imperial's prescription price list and are expressed as a markup over laboratory cost. Since opticians receive a volume discount, on average the actual markup is understated in the table. Further, the prices charged by some laboratories are less than those charged by Imperial. The Director found that all AOCO outlets charged the same prices, therefore the AOCO outlets have not been separated by location.

There are several observations that one can make from Table 10. The most general observation relates to the pattern of markups, which vary inversely with the price of lenses. The highest markups are found for the low-power, single-vision lenses and range from 109 per cent (independents in Toronto) to 206 per cent (AOCO outlets). Similarly, the markups on kryptok lenses, which are the cheapest bifocals, are considerably higher than are those for the flat top and executive lenses of comparable powers. These last two lenses have the same laboratory price. The inverse relationship between lens value and markup is also displayed, with few exceptions, within each lens type. The markups on the lower power lenses are anywhere from 17 to 85 points higher than on the highest power lenses. This pattern does not apply to AOCO.

A comparison of prices and markups on flat top and executive lenses reveals a dichotomy between the independents in Toronto and Montreal, on the one hand, and the Imperial affiliates, AOCO outlets and independents in Edmonton, on the other hand. The laboratory prices of flat top and executive lenses are identical,* so that firms following a strict markup policy will, in each case, charge the same price for the two lens types. The presence of such a policy is shown in Table 10 by the fact that, with a single exception, AOCO outlets, Imperial affiliates and independents in Edmonton have the same

* This is true for all the larger laboratories and for almost all of the smaller ones. In the handful of cases where there are differences, neither lens type is consistently priced above the other.

markups for flat top and executive lenses of comparable lens powers. There does not appear to be the same adherence to a strict markup policy among independents in Montreal and Toronto, as the markup on executive lenses is higher in both locations. Perhaps the "executive" name is seen as lending an aura to that type of lens for which consumers are willing to pay a slight premium. While some might see the higher prices charged for executive lenses as evidence that the purchaser of executive lenses is being exploited, it is first necessary to inquire as to the level of prices charged by independents relative to other outlets.

In Toronto the average markups of independents were lower than those used by Imperial affiliates and AOCO outlets for all lens types and powers. The average markups of the independents ranged from 9 to 44 per cent lower than those used by Imperial affiliates and from 20 to 97 per cent lower than those used by AOCO outlets. The situation in Montreal was similar, with the average markups by independents ranging from 20 to 74 per cent lower than those used by Imperial affiliates and from 13 to 68 per cent lower than those used by AOCO outlets for 10 of the 12 columns in Table 10. In the two remaining columns the AOCO outlets have a seven per cent lower markup in one case. There was no difference in the remaining lens type and lens power range.

Only in Toronto was the sample size reasonably adequate for tests of statistical significance of average prices in the Director's survey. With the exception of the lower powers of kryptok lenses, there was a statistically significant difference (at the 95 per cent confidence level) between the average prices of Imperial affiliates and independent opticians. There was also a statistically significant difference (at the 99 per cent confidence level) between the average prices of AOCO outlets and Imperial affiliates for all categories, save for the lowest powers of each of the three types of bifocal lenses. Unlike the independents and Imperial affiliates, AOCO does not follow a policy of imposing the highest markup on the lowest power lenses. Unfortunately, prices for only four AOCO outlets outside of Ontario were obtained. These included one in Montreal but none in Edmonton. To the extent that AOCO maintains the same price in all of its outlets, its prices must compare more favourably with other outlets outside of Toronto, which has the lowest prices.

The Director also compared prices for complete spectacles. Given the dazzling variety of frames which are available, great care must be taken in making such comparisons. Although some misgivings concerning comparability of frames were expressed during the Hearings, no information was presented which provided any indication as to whether or not the Director's efforts to achieve comparability were successful.* The Director's results for spectacles in Toronto are, on the whole, similar to those for lenses alone. Imperial affiliates had higher average prices for all lens categories than independent opticians for male and female styles of metal and plastic frames. The results were statistically significant at the 95 per cent confidence level except for kryptok lenses. In a reversal of the pattern found for lenses alone, Imperial affiliates generally had higher average prices than AOCO outlets for spectacles with metal frames and there were no significant differences of prices between AOCO outlets and independents. For spectacles with plastic frames, however, the AOCO outlets were, on average, significantly higher than the Imperial affiliates.⁵

One possible explanation for higher average prices by Imperial affiliates in comparison with those charged by independents is that many of the affiliates are in preferred locations and are thus able to obtain a price premium. Unfortunately, it is not possible to form generalizations about prices on the basis of location alone, since this factor does not embody information on the characteristics and number of potential customers and whether or not they have easy access to competing sellers. One of the tests performed on the Toronto sample by the Director grouped the six outlets located in medical and professional buildings (three Imperial, two independents and one AOCO) and compared these average prices with the rest of the sample. No statistically significant results were obtained.⁶

* The wording used in the questionnaire to ensure comparability for gold frames was: "The least expensive 1/20 10K gold-coloured frame, or closest equivalent, displayed for sale on the premises (e.g. B & L '117' or '120')." For plastic frames, the instructions read: "A frame manufactured from cellulose acetate equal or similar in design and style to Canada Optical 'Norseman', American Optical 'Arnold' or B & L '707'."

In a price comparison test performed by a *Montreal Gazette* reporter on a single-vision lens prescription it was noted that:

A price disparity for the same lenses was evident. And the idea that prices were always higher in supposedly high-rent areas with fancy stores was contradicted. Two of the lowest prices came from such establishments, Azarred-Assouline in Les Terrasses, and Thomas A. Marer on Cote des Neiges. Two of the highest prices came from F. Farhat on the bargain strip of St. Lawrence and Simpson's (downtown) optical department.⁷

Averages mask individual differences within groups and it is usually of some interest in any market to inquire as to how much price variation exists among individual sellers. The coefficient of variation, which expresses price dispersion as a percentage of the average price, is convenient for this purpose. Table 11 shows the coefficients of variation derived for Edmonton, Toronto and Montreal from the samples obtained by the Director in his retail price survey.

Generally, less price variation is expected among Imperial affiliates than among independent opticians since the majority of the outlets connected with Imperial affiliates belong to chains and, as far as can be determined, outlets in the same chain charge the same prices. Although there are several important regional chains, only rarely does their number of outlets approach those of the Imperial-affiliated chains. When the outlets in a city or region were sampled, there was more likely to be repetition (i.e., two or more outlets from the same chain) of Imperial outlets than of independent opticians. This is most clearly illustrated in Montreal, where the three Imperial outlets drawn showed no price differences and apparently belonged to the same chain. The expectation of less variation among the Imperial affiliates is also fulfilled in Toronto in all lens categories apart from the single-vision lens. In Edmonton, however, the situation is less clear-cut, if not reversed. Excluding either executive or flat top lenses, since their coefficients of variation for corresponding powers are identical for both Imperial affiliates and independents, the variation among the independents is higher in only three of the nine lens categories.

TABLE 11
COEFFICIENT OF VARIATION FOR LENSES BY AFFILIATION AND CITY
(percent)

City	Affiliation	Number of Retail Outlets	Single-vision		Executive Bifocal (Sphere)				Kryptok Bifocal (Sphere)				Flat Top Bifocal (Sphere)			
			Sphere: With cyl:	Plano - 2.00 Plano - 2.00	Plano -2.00	2.25 -4.00	4.25 -6.00	6.25 -9.00	Plano -2.00	2.25 -4.00	4.25 -6.00	6.25 -9.00	Plano -2.00	2.25 -4.00	4.25 -6.00	6.25 -9.00
TORONTO	I-S*	14	15		4	6	7	10**	12	10	10	8	5**	5	6**	9
	Independent	15	12		10	13	12	14	15	15	12	15	13	15	15	17
MONTREAL	I-S*	3	0		0	0	0	0	0	0	0	0	0	0	0	0
	Independent	6	26		18	16	13	13	16	13	10	7	12	9	9	7
EDMONTON	I-S*	5	4		10	12	14	14	6	8	9	12	10	12	14	14
	Independent	5	12		12	5	8	7	15	6	6	4	12	5	8	7

SOURCE: Table 31 of Appendix XI of the Green Book.

* "I-S" represents Imperial-Standard and takes in all Imperial subsidiaries and affiliates.

** Reading from left to right, these figures appeared in error as "9", "10" and "9", respectively, in Table 31 of the Green Book.

The greatest variation is found among the independents in Toronto and Montreal. The price variation was fairly consistent in Toronto, moving within a rather narrow band (10 to 17 per cent) whereas in Montreal there are much larger differences among the various lens categories (from 7 to 26 per cent).

The percentage markups over Imperial laboratory prices for 12 chains of opticians' outlets are shown in Table 12 for the first four lens-power divisions for single-vision spheres, sphero-cylinders, and kryptok and flat top lenses. The table is based on price lists provided by Imperial for nine chains with outlets almost exclusively in either Ontario or parts of the Western Provinces. Included in the table along with the Imperial-affiliated chains are Stewart N. King, with outlets primarily in Manitoba, King Optical, based in Ontario, and AOCO's Simpsons-Sears outlets.

The decline in the markup over laboratory costs as one moves from lower to higher-cost lenses (e.g., single-vision to bifocal, or from lower-power to higher-power lenses) observed from the average prices in Edmonton, Montreal and Toronto is partially confirmed in Table 12. There is a general tendency for the markup to fall from low-power to higher-power lenses within each lens type, and for lower markups to be charged on more expensive lenses between lens types. For single-vision lenses, the markups are higher on spheres than on sphero-cylinders and for bifocals, flat top markups are lower than those on kryptok lenses. However, there is a break in regularity between single-vision sphero-cylinders and kryptok lenses with the markups on the more expensive kryptok lenses often exceeding those of the sphero-cylinders. This is consistent with the view held by many dispensers that bifocals require more care in fitting than do single-vision lenses.

Shorney's and Eaton's in Ontario used a multiplier of roughly two in pricing many lens categories. The other chains, with few exceptions, used multipliers which exceeded two for most lens categories, and were well in excess of that value for the lower-power single-vision lenses, which account for a large proportion of prescriptions. The Optical Prescription Co. Ltd., Saskatoon was unique among the Imperial affiliates in that it maintained a single price across two or three lens-power

TABLE 12
RETAIL PERCENTAGE MARKUPS OVER IMPERIAL LABORATORY PRICES, 1975*

	King Optical	O.P.C. (Saskatoon)	Shorney's	Eaton's (Ontario)	Braddock	Hale (Fort)	Stewart N. King	London Optical (B.C.)	House of Spectacles	O.P.C. (Edmonton)	P.O.C. (Fort)
<u>Single-vision</u>											
<u>Sphere</u>											
Plano-2.00	166.4	196.9	103.1	150.0	150.0	181.3	200.9	181.3	220.3	228.1	196.9
2.25 - 4.00	130.4	156.8	102.7	116.2	143.2	156.8	175.0	183.8	197.3	197.3	197.3
4.25 - 6.00	103.0	126.2	102.4	138.1	126.2	138.1	167.2	173.8	191.7	173.8	185.7
6.25 - 9.00	33.2	68.0	95.3	103.1	103.1	87.5	112.9	134.4	130.5	134.4	150.0
<u>Single-vision</u>											
<u>Cylinder</u>											
Plano-2.00	98.3	120.9	97.8	109.3	120.9	132.6	140.7	155.8	167.4	155.8	167.4
2.25-3.00	74.0	93.9	104.1	124.5	114.3	144.9	144.9	165.3	170.4	155.1	175.5
3.25-4.00	35.3	66.7	138.1	122.2	122.2	122.2	114.3	138.1	122.2	122.2	154.0
4.25-6.00	- .87	62.8	97.7	91.9	109.3	103.5	86.6	132.6	106.4	86.0	144.2
<u>Kryptok</u>											
<u>Sphere</u>											
Plano-2.00	147.0	143.5	100.0	100.0	134.8	117.4	154.3	152.2	178.3	204.3	160.9
2.25 - 4.00	102.9	100.0	100.0	100.0	121.4	114.3	128.6	135.7	142.9	171.4	142.9
4.25 - 6.00	75.3	72.8	97.5	103.7	116.0	122.2	118.5	140.7	122.2	146.9	146.9
6.25 - 9.00	39.2	59.3	96.1	120.6	101.0	115.7	96.3	125.5	115.7	125.5	135.3
<u>Flat Top</u>											
<u>Sphere</u>											
Plano-2.00	56.0	75.8	97.8	97.8	103.3	103.3	117.6	119.8	114.3	125.3	125.3
2.25 - 4.00	37.9	60.2	94.2	89.3	99.0	99.0	100.2	118.4	118.4	118.4	123.3
4.25 - 6.00	27.9	59.9	98.2	102.7	102.7	107.2	89.2	129.7	111.7	107.2	134.2
6.25 - 9.00	9.7	60.2	69.9	100.8	96.9	96.9	78.0	127.8	110.4	100.8	135.5

SOURCE: Retail and laboratory price lists submitted to the Commission.

TABLE 12 - Continued

* AOCO's markups are shown below rather than in the body of the table because the price divisions used in the AOCO retail outlets differ significantly from the other chains and therefore could not be accommodated in the table. There are several other points of difference to be noted. AOCO's markups were calculated from AOCO laboratory prices. This simplified the task considerably because the same price divisions were used at the wholesale and retail levels, and had little effect on the result since there is little difference, overall, in Imperial and AOCO prices. The AOCO retail and wholesale price lists are from 1976, while the Imperial laboratory price list and those of the other chains were from 1975.

<u>Single-vision</u>		<u>%</u>
Sphere		
Plano-4.00		220.0
4.25 - 7.00		199.0
<u>Single-vision</u>		
Sphere	Cylinder	
Plano-4.00	0.12-3.00	192.9
	3.25-6.00	157.6
<u>Kryptok</u>		
Sphere		
Plano-4.00		101.4
4.25 - 7.00		89.9
<u>Executive</u>		
Sphere		
Plano-4.00		72.1
4.25 - 7.00		70.0

categories. This pricing policy is a modification of King Optical's, which charges one price for single-vision lenses of all powers* and one price for bifocal lenses.

In the absence of an explicit weighting scheme, it is difficult to make comparisons between two chains unless one of them has higher prices across all lens categories. Although an unambiguous ranking across all chains cannot be obtained, with the exceptions of Simpsons-Sears and of Stewart N. King, they can conveniently be divided into groups. In the low-price group are King Optical, Shorney's, Optical Prescription Company (Saskatoon), Eaton's (Ontario), Braddock, and Hale. House of Spectacles, Optical Prescription Company (Edmonton), London Optical, and Prescription Optical Company fall into the high-price group, as their prices are higher for each lens category in Table 12 than those of the other chains.**

Of the four Toronto and Ontario-based chains among the Imperial affiliates, three are found in the low-price group. The exception is the House of Spectacles which has extensive operations in Ontario as well as a few outlets in Manitoba and the Maritimes. Included in the high-price group is the only chain from Edmonton. Thus where the chains are primarily within specific cities, the price information considered here tends to confirm the results for Toronto and Edmonton obtained in the Director's price survey.

The two weighting systems, W_1 and W_2 , used previously in comparing laboratory prices were applied to obtain average markups for each chain, allowing overall comparisons to be made.

The weighted averages are listed below and arranged according to the rank of the W_1 weighted averages. There are several shifts in the rank order when W_1 and W_2 are compared: King Optical slips from first to second place, Optical Prescription Company (Saskatoon) from fourth to fifth, and House of

* There are minor exceptions which are unlikely to be important in practice.

** The markups on single-vision spheres, plano to 2.00, is higher for O.P.C. (Saskatoon) than for London Optical; this is the only exception to the generalization in the text.

Spectacles from tenth to eleventh position. Other than these, there is no difference in the rankings obtained from the W_1 and W_2 averages.

	Weighted Average Markups, 1975	
	W_1	W_2
	%	%
1. King Optical Company	96.4	117.4
2. Shorney's Opticians	100.9	103.3
3. Eaton's Optical Dept.	114.9	118.0
4. O.P.C. (Saskatoon) Limited	119.4	137.6
5. Braddock Optical Ltd.	124.2	128.8
6. Hale Optical	132.8	139.6
7. Stewart N. King Ltd.	144.4	156.4
8. London Optical	153.3	156.9
9. AOCO (Simpsons-Sears)*	159.9	164.0
10. House of Spectacles	163.5	175.2
11. P.O.C.	164.4	168.1
12. O.P.C. (Edmonton) Limited	165.3	179.9

* AOCO's weighted average markups were calculated using AOCO laboratory prices rather than Imperial's for the reasons given in the footnote to Table 12. The AOCO markups for single-vision spheres and bifocals were calculated for the range plano to 7.00 D, while the range used for the other chains was plano to 9.00 D. The effect of this difference on the results is necessarily slight given the low value of weights for lens powers between 7.25 D and 9.00 D. The price lists used for AOCO are from 1976.

The range of prices among Imperial affiliates within an area is well illustrated by comparing in Table 12 Shorney's and House of Spectacles' markups in Toronto, and those of the three chains with the greatest part of their outlets in British Columbia: Hale Optical, Prescription Optical Company and London Optical.

Information on the markup on frames was obtained from several witnesses who dealt with this matter in their evidence. Mr. R. Laforce, in Quebec City, referred to a multiplier of

two or two-and-one-half times the wholesale or laboratory cost on frames and a multiplier of two or three times on lenses, depending on the prescription. Mr. Marc Cossette, President of l'Ordre des opticiens d'ordonnances du Québec, said that markups (or multipliers) tended to vary and had an outside range of about three times the optician's costs. Mr. Cossette did not separate lenses and frames, noting that anything taken off one could be added to the other. In Edmonton, Mr. I. Gliener, of Baker Centre Optical, said that he used a multiplier on lenses that was just short of doubling the wholesale price, on average, but that it varied with the prescription. Frames were sold at twice the wholesale costs plus four dollars. However, Mr. Gliener is not representative since Tables 10 and 12 show that the average multiplier followed by O.P.C. (Edmonton) and, on average, by both the independent opticians and the Imperial affiliates covered in the Director's survey is well above two; only in the higher prescription values, which are rarely encountered, does the multiplier fall to two and below. Mr. L. Gendron, an ophthalmic dispenser with Alberta Vision Centre, Medicine Hat, who had had experience with both the Stewart N. King outlet, which operated for about a year in Saskatoon, and with the Precision Optical Co. Ltd. outlet, Saskatoon, said that the prices of frames were obtained by doubling the wholesale price and then adding four dollars and six dollars, respectively, in the two outlets. Mr. G. Tapper, an employee of an Imperial laboratory which dispenses in St. John's, said that it arrived at the retail price to consumers by doubling the wholesale costs (it is presumed of both lenses and frames) and adding four dollars as a "dispensing fee".

Although a few witnesses who referred to the pricing of frames presented very similar formulae - double the wholesale price plus four or six dollars - Messrs. Laforce and Cossette indicated that, at least in Quebec, the approach to pricing frames was not that rigid. The variation in pricing of lenses, as shown by variations within particular samples, the difference between average prices of different types of outlets, and differences between average prices in Edmonton, Montreal and Toronto, suggest that it is unlikely the same pricing formula on frames is adhered to by most opticians.

Optometrists

There is limited information available to the Commission on the actual prices charged by optometrists in dispensing spectacles and contact lenses. However, the Canadian Association of Optometrists and a number of provincial associations made a considerable effort to inform the Commission about the pricing policy that has been adopted by the optometrists' governing body in each province.

Except in Quebec, the general policy followed is that patients should be charged the cost of materials incurred by the optometrist plus a fee for the services provided in dispensing the material. There is a fee for each defined service that is contained in the fee schedules adopted by the provincial optometric associations. In Newfoundland, the fee schedule is designated as a minimum, whereas in other provinces it is a recommended or suggested set of fees.

One rationale for separating the charges for dispensing ophthalmic appliances into the cost of materials plus a fee for service is to avoid any suggestion that optometrists are engaged in dispensing for reasons of commercial gain; in other words, to avoid the appearance that the optometrist is in a conflict-of-interest situation in being in a position to fill his own prescriptions. It might be noted, without commenting on the advisability of separating charges into materials and service, that such a practice does not, in fact, eliminate the conflict-of-interest situation. An optometrist whose office is less than fully occupied can benefit from the additional volume from dispensing, as can a busy practitioner, if the fees charged for dispensing are higher on a per-unit-of-time basis than are the fees obtainable from performing ocular-visual examinations. The latter situation particularly represents a monetary incentive to dispense when the optometrist employs assistants whose rate of earnings are lower than his.

The conflict of interest in optometry has been alluded to on a number of occasions during the course of the Hearings. It should be noted that optometrists are not alone since they are joined by any professional who is able to generate increased demand for his services through the advice he offers his patient or client. The opportunities to do so are probably quite common, as suggested by the numerous examples from a

number of professions that easily come to mind. The safeguards available to consumers are the integrity of the professionals, their own knowledge of what is appropriate professional behaviour and, though probably to a lesser extent, the remedial or punitive actions that can be brought to bear against a professional who has abused his position.

Another reason that was presented for separating charges is that this places everything aboveboard and ensures that the income earned is related to the service provided rather than to the cost of materials, which would not be the case if a markup policy geared to the cost of materials was followed.

Table 13 shows part of the provincial fee schedules which applied at the end of 1975. The dates in parentheses in the table are those which appeared on the fee schedules and would appear to be the dates when the schedules were introduced; e.g., October 1975 in British Columbia and sometime in 1971 in Newfoundland.

There are considerable differences among schedules, in terms of the detail with which the fees are set out and in terms of their level. In four of the provinces the fee for contact lens fitting is stated as a single number. In the remaining provinces distinctions are sometimes made between toric lenses (used in treating astigmatism), bifocal lenses and soft lenses. In Ontario there is one charge for "basic design" and another for "special design". The fees for contact lens fitting shown in the body of Table 13 are the lowest shown in the fee schedules. It is safe to assume that, in each instance, this was the recommended fee for fitting single-vision, spherical, hard lenses. In those provinces where there was a single fee shown for contact lens fitting, it is not known whether the same fee was also meant to apply to other types of lenses.

There is a large spread in the fees, with a 78 per cent difference between the lowest (Nova Scotia) and highest (Manitoba) recommended charges for what are, or should be, the same services. The fee differences are primarily regional, with the Prairie Provinces at the high end, British Columbia and Ontario in the middle, and the Atlantic Provinces (with the exception of Prince Edward Island) at the low end.

TABLE 13

PROVINCIAL OPTOMETRIC FEE SCHEDULES IN EFFECT DECEMBER 31, 1975

	Contact Lens Fitting (\$)	Spectacle Dispensing		
		Case Analysis, Consultation & Prescribing (\$)	Frame (\$)	Single-vision Lenses (\$)
British Columbia (Oct. '75)	157.00 ^a		14.00 ^b	13.00
Alberta (Jan. '75)	210.00 ^c	6.50	9.00	10.00 ^d
Saskatchewan ('74)	190.00		8.00	8.00
Manitoba (Sept. '75)	222.00 ^e	9.60	8.40	6.00 ^f
Ontario (April '75)	152.00 ^g	5.00 ^h	2.00-7.00 ^h	7.00 ^h
New Brunswick ('74)	138.00		8.00	6.00
Nova Scotia (Jan. '75)	125.00 ⁱ		7.00	8.00
Prince Edward Island (Dec. '74)	200.00		8.00	8.00
Newfoundland ('71)	125.00			8.00 ^j

SOURCE: Brief filed by The Canadian Association of Optometrists, Part F.

Table 13, Continued

- a) Hard and soft lenses are both listed at \$157. No mention is made of toric or bifocal lenses.
- b) The fee shown is for a "Standard Frame: (up to and including \$8.00 cost price)"; a different and presumably higher fee, which is difficult to interpret, is to be applied to a "Premium Frame".
- c) The \$210 fee applies to single-vision, spherical, hard and soft lenses. Toric and bifocal lenses are listed at \$240 and \$300, respectively.
- d) The fee for reading glasses is \$12.
- e) Toric lenses are \$270 and bifocal and soft lenses each \$300.
- f) The fee for reading glasses is \$8.40.
- g) The fee shown is for "Basic Design". The fee for "Special Design" lenses, of which toric and bifocal curve lenses are offered as examples, is \$215.
- h) The three procedures into which spectacle dispensing is broken down in the Ontario schedule are: "Specifying Ophthalmic Frame", "Designing, Controlling and Verifying Ophthalmic Appliance", which has been shown in the table under "Case Analysis, . . .", and "Adapting Ophthalmic Appliance and Counselling Patient", which has been shown under lenses.
- i) Soft and toric lenses are \$150, and bifocal are \$175.
- j) The fee shown is for "Ophthalmic Dispensing . . . Single Vision". There is no division in the schedule of spectacle dispensing into frame and lens components, as is found in the other provinces, and it may be presumed that "Ophthalmic Dispensing" is all-inclusive.

Fees for soft contact lenses are specifically mentioned in four schedules. If it is assumed that soft lenses fall under "basic design" in Ontario then the recommended fee in that province as well as in British Columbia and Alberta is the same for hard and soft lenses. In Nova Scotia and Manitoba the recommended fee is \$25 and \$78 higher, respectively, than that recommended for hard lenses. The recommended fee for soft lenses in the five provinces, in order of size, is:

Nova Scotia	\$150
Ontario	\$152
British Columbia	\$157
Alberta	\$210
Manitoba	\$300

A survey of soft contact lens prices to consumers undertaken by a newspaper in Ottawa in early 1976⁸ provides a point of comparison with the recommended fees. Allowing \$94 for the laboratory cost of lenses and care kit, the approximate average service or fee component in the prices charged to consumers by ophthalmologists was \$173.50; by optometrists, \$139.75; and by opticians, \$135.50. The average for the four optometrists surveyed was considerably reduced by the low price quoted by one of them - a price that was appreciably below the lowest price obtainable from the 10 opticians' outlets surveyed. The remaining three optometrists quoted the same price. An approximate service or fee component of \$156 was calculated, which is only marginally different than the recommended fee of \$152.*

The recommended fees for spectacle dispensing are generally separated into a charge for dispensing the frame and a charge for the lenses. In Alberta and Manitoba, there is also an overall charge under the heading of "Case Analysis, Consultation & Prescribing", which, as described by a

* The Ontario fee schedule used in Table 13 applied until March 1976 and encompasses the period of the newspaper survey.

representative of the Alberta association, consists of explaining the use of the spectacles (or other form of prescribed therapy) to the patient.

Some optometrists in Alberta appeared to have interpreted this category of service as a prescribing fee which patients had to pay if they chose to have their prescription filled elsewhere. The Association investigated such cases when they were brought to its attention and according to Dr. D. S. Brisbin "patients were refunded the money if it was presented as a penalty fee".⁹

The fees shown in Table 13 are for single-vision lenses, excluding reading glasses, for which, as shown in footnotes to the table, slightly higher fees are recommended in several provinces. In New Brunswick, Nova Scotia, Prince Edward Island and Saskatchewan, the total recommended dispensing fee is between \$14 and \$16. This fee is about the same in Ontario, although it can go up to \$19 if the high end of the recommended range for frame dispensing is applied. Manitoba, Alberta and British Columbia are at a different level of fees, with \$24.00, \$25.50 and \$27.00, respectively. Thus the general pattern of relatively high fees in the Western Provinces and low ones in the Maritime Provinces, which was found for contact lenses, is repeated for spectacles. However, there are several marked departures from the ranking of the provinces between contact lenses and spectacles: British Columbia moves from the middle range in contact lenses to the highest fees for spectacles, and Saskatchewan and Prince Edward Island shift from the upper range in contact lens fitting to the lower end of recommended fees for spectacle dispensing.

All provincial schedules recommend higher rates for dispensing bifocal and other lenses which are said to be more difficult to measure and verify than are ordinary single-vision lenses. The amount of the differential between single-vision and bifocal (etc.) lenses is closely related to the recommended fees for dispensing single-vision spectacles: it is two or three dollars in the less expensive provinces and rises to five-and-one-half, six and seven dollars in Manitoba, Alberta and British Columbia respectively. A ratio of recommended dispensing fees of roughly 2:1 between the province with the highest rates (British Columbia) and the provinces with the lowest rates (New Brunswick, Nova Scotia) is maintained for single vision, bifocal and trifocal lenses.

British Columbia is the only province where a single dispensing fee for frames is not recommended. There is one fee for frames costing less than eight dollars and another open-ended fee for "premium" frames. The effect of such a fee structure is not consistent with a fee for service philosophy, even though it may be possible to create an economic argument based on the cost which includes risk of carrying an adequate supply of fashion frames.

The rationale for setting up recommended fee schedules is logically different from that requiring charges for dispensing ophthalmic materials to be segregated into cost of materials plus a fee for service. This area was explored with Dr. Brisbin, President of the Alberta Optometric Association:

Q. You are in business by yourself?

A. Yes.

Q. And you understand where you make a profit or where you make a loss?

A. That is right and bear in mind that this is a suggested schedule of fees. Any optometrist could charge whatever fee he thinks is most suitable to his practice. However, there must be some type of guideline and that is why there is a suggested schedule.

Q. Why must there be a guideline?

A. First of all, to give an indication to the practitioner whether he is totally out of line ---

Q. What does it matter if he is out of line?

A. I think it is our obligation to indicate to him perhaps what the norm is. If an individual seems to feel -- an individual might have an extremely vague idea what the value of his service was. I think it is in fact incumbent upon the profession to at least give him a guideline there.

The second thing is that when the Association which has the power to contract with third parties such as

government on behalf of the members, it is rather difficult to go in and discuss or negotiate a contract on behalf of the members with, if we have 160 members, 160 different fee structures. Therefore, you have to have some pattern set down and this is the guideline. That is basically what the fee schedule works out to.

. . .

Q. . . . What is the need to update the schedule every year or two, if they are basically to give an optometrist basically what the value of his service is?

A. As overhead increases and the cost of living increases periodically, one does update. The relative values remain the same. It is in order to generate an adequate income for the optometrists. As a matter of fact, the Optometric Association fee schedule and recommended schedule of fees did not increase from 1970 to 1974.

Q. Is this one of the basic purposes of the fee schedule, to generate what optometrists regard as adequate incomes?

A. I would say yes, it is their only source of income, the fees they charge for their services.¹⁰

Fee schedules can be used to guard against charges which are far above the recommended rates. In Ontario the Board of Optometrists requires that the patient must be told in advance if the optometrist intends "to charge a fee in excess of the fee schedule." There is also a provision in the regulations of the college to the effect that, if the fee is not related to the service provided, or if the fee is exorbitant, these become matters of professional misconduct.

In Saskatchewan, the practitioner must justify any fees above the suggested level in the event of a patient complaint of overcharging. Dr. D. J. Holmes, past-president of the Saskatchewan Optometric Association, explained the application of the fee schedule:

. . . it is a guideline considering the average optometrist, what is felt to be the average amount of time, and the factors involved in providing the service, that this is an adequate fee for those services, but as I

mentioned before, if a practitioner is in an area where cost factors are much higher, or if he is in an area where the economic situation is not on an average keel or average basis, he might feel that the fees would have to be higher or lower in consideration of that.¹¹

Representatives of the Saskatchewan Association and the Ontario Board felt that the fee schedule approximated prevailing fees. One factor that was cited in both provinces as having a bearing on dispensing fees was the level of payments by the provincial medical plans for eye examinations. Low fees for the latter were cited as a reason for higher dispensing fees. While it is understandable that optometrists would take into account the income obtainable from all parts of their practices in designing their fee schedules, presumably they have to take into account some constraints resulting from alternative sources for supply. For instance, in provinces where examinations by optometrists are not covered by the provincial health-care plans, the fact that the patient has to pay an examination fee in addition to the charges for his spectacles would tend to limit the total bill that the patient is willing to pay before going to an ophthalmologist or other medical doctor who offers an ocular-visual assessment that would be paid by the province.

As discussed in the section on opticians' pricing, markups calculated on the basis of Imperial's laboratory prices tend to be understated: volume discounts are not taken into account and some laboratories charge lower prices than Imperial. In addition, some optometrists in Saskatchewan add a 5 or 10 per cent handling charge, which is a further departure from the strict principle of charging the patient the laboratory costs to the optometrist. It is not known whether a similar practice is followed in other provinces. However, the general effect of eliminating volume or other discounts to optometrists, or of enforcing a requirement that such discounts be passed on to consumers would have the tendency of reducing price competition among laboratories and wholesalers.*

* As noted in the submission by the Ontario Association of Dispensing Opticians, Inc., "... a fee for service system, with the passing on of wholesale costs of material, removes the competitive factor since the practitioner involved really has very little interest in that wholesale cost."

Additionally, it should be expected that the suppliers would tend to channel competition into other areas - perhaps into service improvements but also into non-cash, but nonetheless valuable benefits to optometrists. As long as the business of optometrists is profitable to laboratories they can be expected to make expenditures to attract it, and the most efficacious of such expenditures would be those that provided some benefit to the optometrists themselves. Thus the likely effects of any attempt to enforce a requirement that consumers be charged the practitioners' actual out-of-pocket costs for materials would be negative - both with respect to the direct welfare of consumers and to optometry as a profession, since the temptations posed by non-cash benefits would be more professionally questionable than are the various discounts that are, at least, a part of normal commercial practices.

Although the recommended fees are independent of the price of materials, they tend to be positively correlated with the laboratory prices of lenses. This relationship results from the view that the dispensing of bifocals, trifocals and spectacles for post-cataract patients is more time consuming than dispensing single-vision lenses. The following is a comparison of Imperial's Rx prices for several types of lenses in 1975 along with the recommended fees in Alberta, the province with the largest number of fee categories for lens dispensing.

Type of Lenses	Recommended Fee	Range of Laboratory Rx prices ±2.25 to 4.00 sph. 0.12 to 2.00 cyl.	Fee Expressed as a Markup on Material Costs
	(\$)	(\$)	(%)
Single-vision	10 and 12	9.80	102 to 122
Bifocal	15.50	19.00 to 25.00	62 to 82
Trifocal	22.00	34.00 to 38.00	58 to 64
Variable focus	27.50	39.00*	71
Post-cataract	27.50	40.00 to 95.00**	29 to 69

* No powers shown in the catalogue for the multilux lens.

** The powers shown do not apply to post-cataract lenses.

The majority of prescriptions are likely to fall within or below the range of powers used in preparing the table, with a greater number of single-vision and bifocal lenses falling below the range used than in the numerous stronger divisions. The approach of the provincial optometrical associations with regard to dispensing plastic lenses and those with tints or coating is not covered in the fee schedules. If a fee for service for these "extras" is not applied the effect is generally to reduce the fee expressed as a markup on material costs. On the other hand, handling charges or other departures from the recommended fee have the opposite effect. What is not known is how frequent, and how large, departures from the recommended fee schedules are.

There is no recommended fee schedule in Quebec, although an experiment in establishing and using such a schedule was in progress in the Quebec City area during late 1975 and early 1976. Among the goals set for the schedule was that it should not materially alter the prices being charged at the time. The fee schedule is divided, in effect, into two basic components, one consisting of a markup on laboratory cost and the other of a fee for service such as is found in the fee schedules already described. The markup on frames is 100 per cent plus a fee for service of \$6. A 50 per cent markup is recommended for lenses with the fees for service varying from \$10 for single-vision lenses through to \$16 and \$22 for ordinary multifocal and variable focal lenses respectively. As a result of the markups on lenses and frames, the recommended fees in the Quebec City area are considerably in excess of those in Alberta, which has one of the highest fee schedules.

The optometrists' fee schedules show much lower prices on spectacles than those charged by opticians, and the reverse is generally true for contact lenses. However, it would be dangerous to draw conclusions about relative efficiency or market power from such information. To begin with, it is by no means certain that the recommended fee schedules are followed. Only in Ontario are optometrists required to tell patients if they intend to charge more than the recommended fee schedule. In the absence of prices from actual transactions, it is not certain what prices are charged in practice. Apart from the absence of information on prices from actual transactions, optometrists and opticians are not performing.

exactly the same functions. Numerous statements by representatives of the optometrists are to the effect that dispensing by optometrists is part of the overall treatment. They are not in the general business of filling prescriptions written by others. Several implications follow from this. Opticians must pay greater attention to the location, decor and selection of merchandise. Given the importance of frame selection to customers, the optician must afford them the opportunity to shop or browse; not every customer-contact represents a sale. As professionals operating on an appointment basis, optometrists are able to spread their clientele throughout the day. Opticians' outlets, like other retail establishments, are more likely to be subjected to peak periods coinciding with the leisure time of customers.

The major value in comparing optometrists' and opticians' prices is not in order to draw conclusions about the relative efficiency in the dispensing of ophthalmic appliances. The comparison is most relevant in determining whether optometric patients who do not carry away their prescription end up paying higher prices than those who do. Consumers who paid no more than the recommended fee schedule made savings on spectacles, as compared to going to most opticians. However, they probably did much worse in the Western Provinces on contact lenses if they paid as much as the recommended fee schedules.

CHAPTER IX

THE QUALITY OF OPHTHALMIC APPLIANCES

Quality has been raised as an issue in this inquiry in connection with a number of complaints about laboratory work. The quality of laboratory work was also seen as an issue in connection with vertical integration. A number of witnesses expressed the view that dispensers working as employees of vertically integrated organizations were less likely than independent dispensers to return inadequate work to laboratories, and that the quality of product at the dispensing level was adversely affected as a consequence. Adverse effects on quality were also seen as the likely outcome should advertising by opticians be allowed to become widespread, as was discussed in the chapter dealing with the regulation of opticians.

Dimensions of Quality

The quality of ophthalmic materials can become an issue in a number of ways. The sturdiness of frames is one possible source of difficulty, either because of weaknesses in the material used or because of the way the frame is constructed. Flimsy frames which need frequent repair can obviously be costly and irritating and the strength of frames could be important in preventing injury in the event of an accident. Even where the quality of frames *per se* is not at issue it can affect the successful application of a prescription if the type of frame makes the proper positioning of the lenses difficult or impossible. Complaints or concern about quality of material are relatively less for lenses than for frames.

Defects in lenses can arise at the stage at which lens blanks are made, or later when they are ground and polished in the factory and the laboratory. Fundamental questions regarding lens quality take one into specialized areas in the theory of optics. The discussion of the gradually changing power

of the multifocal lenses in Chapter I provides an illustration of how lens design, as derived from the theory of optics, is the starting point for lens quality. The question of lens design may not be as obvious in lenses made to satisfy less ambitious goals than the Varilux 2, but the better known manufacturers make claims for their lenses based on their design. As in the case of the Varilux 2, the objective of the different designs is to minimize visual distortions in the periphery of the lenses. Many practitioners probably find it difficult to evaluate the claims of competing companies. This conclusion is only partly based on the specialized nature of lens design: in addition, at no point in the Hearings was mention made of laboratory selection on the basis of the source of manufacture of the lenses used by the laboratory.

The Canadian lens manufacturers check all their lenses after fabrication and divide them into categories. This checking is a labour-intensive and costly procedure. The first-quality lenses are segregated and marketed separately. Imperial divides the remaining lenses into second and third-quality, with only the second-quality lenses sold in Canada under the brand name "Cortex". Only first-quality lenses, which are sold under the name "Corectal", are used in the Imperial laboratories. Over 90 per cent of the Imperial output would constitute first-quality lenses. Bausch & Lomb's first-quality lenses constitute over 99 per cent of its output, and only its first-quality lenses are sold in Canada.*

Mr. Casson was asked whether the second-quality Imperial lenses which are sold in Canada and the cheaper imported lenses would be rejected at the laboratory stage if ANSI standards were followed:

* Conclusions regarding Bausch & Lomb's and Imperial's relative success in keeping down rejects or, alternatively, the care which is taken to screen their lenses cannot be drawn from the figures cited on first-quality lenses since the type of lenses produced by the two companies are not the same.

A. . . . if the people who buy downgraded lenses, if they are checking properly, should have a lot of rejections through their lab. . .

Q. So, one could catch inferior lens quality at the final stage?

A. Yes, you could catch it at the final stage.¹

Since manufacturers and distributors may use very different standards in designating their lenses as "first quality", it is important that lens deficiencies can be spotted at later stages.

A detailed description of the defects which cause a lens to be classified as second or third quality was not provided to the Commission. According to the Canadian Ophthalmological Society's *Specifications for Acceptability of Ophthalmic Lenses* the defects to be guarded against in lenses are bubbles, striae,* scratches or imperfect polishing which leave the lens less than perfectly clear throughout its surface. In multifocal lenses, "the segments . . . must be sharply defined." While references were made to the poor quality of some imported lenses, in general there were no complaints about the quality of the glass used in lenses or about the fabrication of lenses to specific curvatures. (The examples of poor work in the laboratory did not focus on the quality of the lenses but on how they were edged and assembled with a frame.)

Variations in the quality of raw material were mentioned as an important consideration with respect to plastic lenses. The matter was raised from the viewpoint of a laboratory which purchases semi-finished lenses and must complete them to individual prescription. Mr. Casson said semi-finished plastic lenses from one supply source were easier to work with,

* "A stria is a streak in glass caused by imperfect mixture of ingredients and resulting in a variation of refractive index." Bausch & Lomb, *Job Coach for Prescription Shop Operations*, p. 204.

resulting in savings to the laboratory. However, there is no evidence that laboratories unable to obtain lenses from the supply source referred to are producing lenses of less acceptable quality. There is also no evidence on whether their costs are higher. All witnesses who discussed the fabrication of plastic lenses agreed that they are more difficult and time-consuming for a laboratory to work with than are glass lenses and that their error and rejection rates can run much higher.

In addition to the refractionist's prescription, the work order which goes to a laboratory includes such details as the size dimensions of the frame and measurements of the interpupillary distance. There are two such measurements in a work order for bifocals, one for far and the other for near vision. The purpose of the interpupillary distance measurements is to determine where the optical centres of the lenses should be placed in the frame. The large frames in vogue require that there be some difference between the optical and geometrical centres. In the parlance of the industry, the lenses must be properly "decentered" in order to have a proper fit. There appears to have been considerable difficulty in decentering lenses for a period during which lens manufacturers had not adjusted to the larger frames and there was not sufficient leeway for decentering the lens when it was being edged. The larger lenses now produced tend to be decentered, which simplifies the task of the laboratory.

The proper positioning of lenses is also necessary when prescriptions contain a correction for astigmatism since the axis of the cylinder is an essential part of the correction. Lens positioning may be important in other situations as well, but proper decentration of lenses and correct placement of the axis in cylindrical lenses are the principal requirements in the great majority of prescriptions.

Quality Standards

Work requiring measurement can, in most circumstances, be assumed to be off the mark to some degree. Small deviations in successive observations taken by the same or different individuals to evaluate the work are also to be expected. The tolerance for error of any object obviously depends on the

purpose to which it will be put. This consideration applies to ophthalmic prescriptions, whether it is a matter of how closely a lens embodies a stated focus or how closely the positioning of a lens conforms to a prescribed cylindrical axis.

There are a number of different standards. One set of tolerances is the Canadian Ophthalmological Society's *Specifications for Acceptability of Ophthalmic Lenses* (1960). A second set of standards is the American National Standard Institute's "requirements for first-quality prescription ophthalmic lenses (1972)", often referred to as the ANSI standards. The Association of Laboratories in Quebec (L'Association des Fabricants de Lentilles Ophtalmiques) has issued its own set of proposed standards. Federal Government standing offers contain still other sets of standards. Towards the conclusion of the Hearings, a new set of standards for Federal Government contracts, which drew on the ANSI standards, was being finalized after discussions between government officials and industry representatives. Specific standards applied to the fabrication of Varilux 2 lenses by Essilor. Only the ANSI standards make any reference to input from all segments of the industry. The ANSI standards are shown in Appendix IV to this Report.

The internal quality control of several of the large laboratory firms makes use of these standards. A short time before Commission Hearings in this inquiry started, Imperial adopted the ANSI standards for its laboratories' internal quality control.

Other important laboratories such as L'Optique Richelieu work to the requirements of individual customers, as ultimately all laboratories must, unless they are willing to give up the business of more demanding customers. Mr. Victor Cohen of Vilico found that losses during the first two or three years of operation could be partly attributed to a laboratory employee who was far too demanding as to what was acceptable work. If Mr. Cohen is correct, the internal standards at Vilico had been higher than necessary to meet the demands of customers. However, even where there are specific written standards which are drawn on by a firm, it is not clear as to how strictly they are applied. To think in terms of the automatic application of standards independently of what is acceptable to customers and the costs entailed in redoing work is to place the matter of standards in an artificial environment.

The impressions of the authors of the article, "Standards of Eyeglasses", which deals with experience with standards in the New York City area, is of some interest:

The status of standards for fabricating eyeglasses is summarized as follows:

1. There are no governmental regulations.
2. Accurate fabrication is required for the spectacle prescription to satisfy the patients' visual needs.
3. The formal standards that do exist seem realistic in terms of visual tolerance and manufacturing ability, but this has not been scientifically demonstrated.
4. Lensometers are often inaccurate beyond the tolerances they are supposedly measuring. There is no convenient method for checking lensometer accuracy.
5. Although there are formal standards for fabrication, it is our opinion that only an extremely few persons or organizations who prescribe or fabricate glasses even possess the standards. Essentially, none uses them.
6. In practice, each person or organization applies personal fabrication standards which are generally more tolerant than the ZSO. 1. [ANSI Standards]²

The question of lensometer accuracy is dealt with later in this chapter.

There are separate ANSI standards in existence for plastic lenses. According to Mr. Bourbonnais, whose laboratory supplies plastic lenses exclusively, the ANSI tolerances for plastic lenses are wider than for glass in recognition of the greater difficulty in working with plastic lenses. Mr. Bourbonnais went on to say that the norms being established by laboratories in Quebec through his association will use the

same standards for plastic as for glass. The differences in tolerances for glass and plastic lenses give rise to the question of the purposes of standards. Are they intended to operate within the narrowest tolerances which can be reasonably met by laboratories? If this is the case, does it mean that tolerances could be wider without affecting the integrity of a prescription?

An examination of the standards submitted to the Commission shows a number of differences in tolerances. For anyone to begin to be able to evaluate the different standards it would be necessary to know the objectives of those who prepared the tolerances and how they were affected by cost considerations.

ANSI standards for contact lenses were introduced at the beginning of 1973, as were the standards for conventional lenses. However, according to Mr. Casson, the rapid changes in contact lens technology have made the ANSI standards obsolete.

Evidence of Quality Levels

Most of the evidence with regard to quality levels relates to the output of laboratories. The evidence that unsatisfactory work from the laboratory reaches the consumer relates primarily to eyeglasses supplied under federal government contract, though evidence of poor-quality work reaching the consumer outside of government contracts was cited in Winnipeg by Dr. Bruce Rosner, Vice-President of the Manitoba Optometric Society. The essential element where inadequate quality was cited was the absence of a dispensing service. Recent RISOs require the provision of such services where feasible and generally allow separate charges for the dispensing service. Providing dispensing services to clients in remote areas, however, is often a difficult task.

The Commission received much testimony on the subject of the quality of work done by ophthalmic laboratories and, in addition, it received some written submissions on that topic. One of the most significant of the latter was contained in the brief of the Canadian Association of Optometrists dated December 1975. The CAO's brief indicated that "The quality of the products, and in many instances, workmanship required to produce a prosthetic device have left much to be desired."

At its Congress in 1973, the CAO passed the following resolution:

WHEREAS the supply of ophthalmic materials available in Canada has increased vastly over recent years, and WHEREAS many of these materials are of a quality, design or size availability not in accordance with standards necessary to produce optimal therapeutic, protective or diagnostic devices which meet the public need, therefore BE IT RESOLVED that the Canadian Association of Optometrists encourage the establishment of an ophthalmic research testing laboratory at a School of Optometry in Canada with the objective of testing the quality, suitability and performance of ophthalmic materials.³

The CAO then sent out a questionnaire to a sample of two hundred Canadian optometrists whom it regarded as acknowledged experts in the ophthalmic field. The questionnaire asked these optometrists to rate frames, lenses, and workmanship of the ophthalmic materials with which they regularly had contact as "poor", "fair", or "good". By May 28, 1974, ninety-six of the two hundred Canadian optometrists had replied. Their responses are reproduced below:

FRAMES

In regard to the characteristics of ophthalmic frames, how would you rate the overall -

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>
(1) durability of zyl (or plastic frames)?	0	38	56
(2) durability of metal frames?	32	50	12
(3) availability of an adequate range of sizes for each frame, to meet a patient's individual requirements?	40	38	13

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>
(4) ease of adjustment of ophthalmic frames to provide patients with maximum vision efficiency and comfort?	15	50	28
(5) availability of replacement frames and frame components?	33	51	11

LENSES

In regards to the characteristics of optical lenses, how would you rate the overall -

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>
(6) capabilities of oversize lenses to accommodate accurate optical prescriptions?	18	44	30
(7) effectiveness of impact-resistant lenses, as safety appliances?	9	44	40
(8) services of optical laboratories in respect to the following?			
(a) accuracy of prescriptions	10	56	27
(b) quality of workmanship (e.g. edging)	21	50	22
(c) reliability and delivery	29	42	23

In the view of the Commission the results must be interpreted with caution. While words such as "poor", "fair" and "good" are used in ordinary conversation it is difficult to translate them into generalizations about the matters covered in the questionnaire. Above all one would like to know where the respondents drew the line between acceptable and unacceptable. Questions (3), (5) and (8)(c) represent quality of service rather than quality of product *per se*.

Question (8) stands out from the others for two related reasons: it has direct bearing on the quality of work of laboratories and, as a result, the responses may reflect experience in particular regions. It would have been very important to know whether "poor" and "good" responses were concentrated in particular areas or tended to originate from the same area and thus represented differences of opinion. Other parts of the questionnaire also raise questions. Why should there be such a spread in professional opinion with regard to common experiences as represented by Question (6)? Do the particular responses in Question (7) take into account all impact-resistant lenses or is some kind of average struck in the mind of the respondent between glass and plastic lenses? In spite of these and numerous other questions and reservations, the 10-per-cent to more than 40-per-cent responses in the "poor" category must be taken to represent dissatisfaction with most covered in the questionnaire. The "durability of zyl (or plastic frames)" is the only area where the experience of the respondents appears to have been generally favourable.

A number of witnesses gave evidence on quality and the relation between laboratories and their customers. Dr. R. Small of the Manitoba Optometric Society said that a considerable percentage of the ophthalmic work he received was below the standards he would like. He testified that there were instances in which screws fell out, temples fell off and lenses were flawed, displaying poor grinding and edging quality. He indicated that all laboratories were the same in this respect and that, in some instances, up to fifty per cent of the work received from a laboratory in one day might be sent back. He further identified such problems as non-availability of frame size and incorrect position of the optical centres of lenses.

Dr. Bruce Rosner, Vice-President of the Manitoba Optometric Society, mentioned that one of his problems with regard to quality of ophthalmic materials was the fact that certain specified lenses, such as over-size lenses, were unavailable at particular times so that an alternative had to be chosen. He added that large, over-sized frames required large, over-sized blanks which were not always available. Dr. Rosner also said that the time which customers have to wait in order to obtain their spectacles is an aspect of quality. Testifying on the matter of quality of laboratory

work, he said that sometimes spectacles have to be returned two and three times and each time it requires three or four days. Hence it is not difficult to find a six-week delay. Dr. Rosner expressed concern about lens quality, stating that he had to be on guard against lenses with bubbles.

Mr. Andrew Allentuck, a consultant to the Manitoba Government, said that he had searched the files of the Consumers Bureau of the Manitoba Government and he found very few complaints about quality and that those received were trivial.

The brief of the Saskatoon Community Clinic stated that, "It is our experience that glass lens quality locally is poor and in the main does not conform with Ophthalmic lens standards. . . ." of the Canadian Ophthalmological Society, *Specifications for Acceptability of Ophthalmic Lenses* (1960). On the other hand, Mr. L. Zoakipny, optician, of the Regina Community Clinic, said that the quality of available plastic lenses was good.* With respect to glass lenses, Mr. Zoakipny stated that the rejection rate had been "extremely high", with another company it had been "not quite as high", while with the remaining company, the one with which the Clinic dealt at the time Mr. Zoakipny testified, it was "reasonably good". The rejection rate of his Clinic of work from the latter laboratory was stated to be close to 10 per cent, but it varied because a new employee hired by a laboratory required time in which to become familiar with the job. He said that the Clinic used Imperial exclusively for plastic lenses because of the high quality of its plastic lens department, but did not use Imperial for glass lenses because their quality was lower.

Dr. S. D. Brisbin, an optometrist in Edmonton, indicated that at a certain time about six to eight months before he testified he found difficulty in finding any

* It is not clear, in retrospect, whether Mr. Zoakipny was referring to the experience of the clinic in Regina, where he was employed, or of the Saskatoon clinic whose brief he read.

commercial lab that could return him work consistently in less than two weeks, whether it was a single-vision lens job or otherwise. At one point he monitored his practice and found that he had a rejection rate in excess of 50 per cent. Apparently there was a time when it took six weeks before a patient could receive his glasses. Dr. Brisbin said that currently it took him approximately a week to a week-and-a-half to get back an average single-vision prescription from the laboratory and about 10 days for bifocals although on occasion he had got bifocals back in 24 hours. He said that he had "dealt sporadically with almost every commercial lab of the established national laboratories at one time or another in the last year", with an independent laboratory, and had even taken some work to other optometrists who had edging laboratories. With respect to the laboratories, he said: "I have found that any particular lab that I have dealt with were really great for the first two weeks and then went downhill from there."⁴ At the time he testified he said that he was sending very little work to Imperial because that company's service like that of many of the other companies he had tried, deteriorated dramatically after a while. He emphasized that Imperial was not unique in that respect. When he sent work to be edged in the facilities owned by his optometric colleagues he sometimes had rejects but the percentage was lower than that experienced with commercial laboratories. He said that the figure might run to 10 per cent but he indicated that on one particular day - seven or eight months before he testified - he had rejected all eight pieces of work that came into his office and four of them had to be sent back a second time. When questioned about his rejection of material received from the laboratory owned by his optometrist colleagues, Dr. Brisbin indicated that on certain days he had rejected more than 10 per cent. He went on to say, however, that the optometrists themselves had never seen the work that left that laboratory and that the optometrist colleagues did not do the actual work.

Among the faults Dr. Brisbin noted in the work that he had received were: a bifocal located in the lower portion of the lens in one eye and in the upper portion in the other; a cylinder perhaps five degrees off axis; two lenses not the identical shape; optical centres which were off.

On the matter of quality control in the laboratory, Dr. Brisbin said:

I have always been assured by any lab that there is a great deal of quality control and it is all checked out, but to take that extreme example of a bifocal on the top of one eye and on the bottom of the other, the quality control must be a sampling type of thing. That is the only thing I can think of.⁵

Dr. Brisbin indicated that he had sometimes sent a prescription back to a laboratory three times to be re-made. The deficiencies of laboratories discussed by Dr. Brisbin also extended to the edging laboratory owned by his colleagues.

Another side of the quality picture was presented in the testimony of Mr. Glen Starr, owner and manager of Independent Optical of Edmonton. Mr. Starr testified that the actual mechanical aspects of servicing lenses were not too difficult as long as the person undertaking the task knew the complete prescription. Mr. Starr said that often the prescription received omitted certain information such as interpupillary distance, frame size and lens size; or was imprecise about segment height in multifocal lenses. Mr. Starr indicated that when prescriptions are incomplete or unclear he tries to secure clarification which entails disturbing the doctor. The demand for fast service, said Mr. Starr, means that he has to use his own judgment a lot of the time and sometimes it is faulty. Added to these uncertainties is the requirement to get the prescription back to the doctor or to the patient as quickly as possible. These conditions work against quality. Furthermore, according to Mr. Starr, various eye-care specialists have different ideas about tolerances and the eye specialist who is more exacting in this regard may have difficulties. Another difficulty arises when the laboratory does not have the frame into which the lens is to be fitted and therefore does not know what shape and size the lens has to be - a situation which may lead to errors with the optical centre on the lens. Such a situation may arise if the frame is ordered from another city and the guesses that the laboratory has made about the lens may prove to be wrong once it receives the frame. He said that service sometimes suffers if the laboratory has to wait three or four weeks to get a particular lens. Most of Mr. Starr's

business came from optometrists. With regard to ophthalmologists' prescriptions, Mr. Starr said that any incomplete ones are generally rectified by the dispensing opticians before reaching him.

Dr. J. A. Snow, Vice-President of the Newfoundland Optometric Association said that in 1972 or 1973 he had found two difficulties with the local laboratory (Imperial). The biggest problem was in getting frames. If Imperial did not stock a required frame in the local laboratory, he had to wait a month until the frame was obtained; in his view he should have had it in a week or 10 days. The second problem lay in the quality of the local Imperial laboratory's work. At the time that he testified he relied on Eastern Optical because the quality of that laboratory's work was better than he had received from any other laboratory. He used the Imperial laboratory for emergency jobs only and kept a very close check on them. On such emergency jobs Imperial's work was done properly most of the time but sometimes it was not. Dr. Snow, who had practised in Great Britain as well as in Newfoundland, indicated that the quality of the glasses he was getting from Eastern Optical in Dartmouth was quite comparable to, if not better than the quality of the glasses he received in Great Britain. Dr. Snow believed that at least half the optometrists in Newfoundland did not use the Imperial laboratories on a regular basis: they used laboratories on the mainland, either Eastern Optical in Dartmouth or Metropolitan Optical Ltd. in Montreal.

Dr. R. MacDuff, an optometrist of Gander, Newfoundland, indicated that he used Metropolitan Optical for his work because it had a different and a good quality frame line and that its service was good. He testified that he sent a certain amount of work to the Imperial laboratory in Gander. He said he knew that a lot of plastic lenses ordered from another laboratory were obtained from the Imperial laboratory because it had the largest plastic department.

Dr. Alan Richardson, an optometrist of St. John's, Newfoundland, indicated that he sent his work to Eastern Optical in Halifax and Metropolitan Optical in Montreal. He

said that he did not use Imperial more often because of poor quality, by which he meant principally problems with positioning of lenses and poor edging. About ten years before he testified, Dr. Richardson had dealt fairly extensively with Imperial in St. John's but had sent a lot of glasses back. He ceased providing any appreciable volume of work to Imperial around 1970. During the years when he dealt extensively with Imperial, Dr. Richardson said that he found that at times 50 per cent of the glasses he received from Imperial were unsatisfactory. But Dr. Richardson did comment that "Of late it [Imperial's quality] has been reasonably good. I have not [made] too many complaints." The percentage of glasses which he had to return to Eastern Optical was less than one per cent, and with regard to Metropolitan Optical, returns were even lower. The poor quality work done by the Imperial laboratory in the past had persisted despite Dr. Richardson's representations to Mr. Casson and the laboratory manager. Dr. Richardson testified that "It is only in the last month or six weeks I would say, that I have noticed a considerable improvement, and a lot of cooperation from them." Dr. Richardson was aware that the manager of the Imperial laboratory had been changed, a fact confirmed by Mr. Casson. He stated that he was placing a little more work with Imperial than he had over the previous four or five years and that if it proved satisfactory he would be quite satisfied "to go along with them."

It is noteworthy in this connection that Mr. Casson testified that Imperial had re-equipped the laboratory in St. John's, appointed a new laboratory foreman, changed the employee charged with checking out the work, fired three people and had been sending one of Imperial's best supervisors from Toronto to the laboratory in St. John's on a regular basis. Mr. Casson indicated that that laboratory was experiencing less than five per cent returns at the time he testified.

Mr. Alan Tytel, General Manager of Monarch Optical Manufacturers Limited* of Toronto, a firm which owned a

* This firm discontinued laboratory operations soon after the close of the Hearings in this inquiry.

laboratory serving its own dispensing outlets along with independent opticians and optometrists, stated that the return rate to the laboratory was perhaps one to two per cent. Mr. Tytel said that the same return rate applied to his own dispensing outlets as to other optometrists and opticians. The one or two per cent returns figure would apply to the entire output of his prescription department, i.e., to 100 per cent of the lenses surfaced or edged by Monarch Optical. He said that most returns were caused by small, careless mistakes, the major mistakes usually being found before they got to the final laboratory check. Some returns were unwarranted, as where the doctor had changed the prescription, or a patient wanted a different type of bifocal or colour of lens than the one ordered. Errors also arose when prescriptions were transmitted by telephone or when prescriptions were not transcribed correctly by the dispenser.

Imperial also had some testimony and evidence to present on the subject of returns. Having heard references to 40 or 50 per cent rejection rates, Mr. Casson stated that if returns to the laboratory exceeded 10 per cent of work sent out, the laboratory would be in financial difficulties. At the request of the Commission, Imperial carried out a survey of rejections of material by customers. The figures collected did not relate to frame quality. The report was to cover a period of seven days beginning Monday, February 23, 1976. Written returns were secured for Calgary, Edmonton, Regina, Saskatoon and Winnipeg. There were no written returns for the remaining laboratories, these evidently having been contacted by Imperial officers by telephone. The summary figures on rejection of lenses by customers covers 16 of Imperial's laboratories. In the case of the Victoria laboratory the period covered is four weeks. That for Montreal covers two weeks, for Dartmouth, N.S., two weeks and for Summerside, P.E.I., three weeks. The percentage of returns varied from less than 1 per cent (Dartmouth, Summerside, Regina and Saskatoon) to a maximum of 7.76 per cent in Winnipeg. That for Victoria, B.C., was 5.55 per cent, the rest varied from 1.07 to 2.33 per cent.

Mr. Gliener, dispensing optician of Baker Centre Optical and Guardian Optical in Edmonton, indicated that his dispensaries returned about 5 per cent of spectacles to the laboratory.

While the evidence is mixed, it can safely be summarized as showing that, for whatever reason, returns to a laboratory are an ordinary occurrence. The incidence of returns varies with the laboratory and, it would appear, with the dispenser. Laboratories also seem to be subject to good and bad days. The thrust of the evidence is that dispensers must check all work to ensure that it has been properly performed. It might be taken for granted that dispensers would perform this task as a necessary part of their role. However, it is conceivable that dispensers might develop trust in the expertise and quality control of a particular laboratory and, therefore, only check returned work on a sporadic basis, or only for difficult prescriptions.

The evidence on laboratory quality also points up the wisdom of ensuring that provision is made for the performance of the dispensing function in government contracts.

The lack of evidence on poor quality of spectacles from dispensing outlets should not be taken to mean that dispensers have a perfect record of quality control. The complaints about the quality of work from laboratories come from dispensers, who are informed buyers.

Ophthalmologists do not make a practice of checking glasses after the patient has received them from the dispenser, while the optometrist in his role as dispenser, is expected to check all spectacles before releasing them to the consumer. The average consumer is probably not in a position to spot problems with his spectacles. Even if headaches, giddiness, or less than attainable visual acuity result from an improperly prepared prescription, the consumer may not be able to identify the source of the difficulty or to recognize where in the chain of prescribing, dispensing and fabrication the problem occurred. The available evidence makes it impossible to conclude whether the lack of consumer complaints about the quality of spectacles largely reflects their inability to perceive quality problems, rather than the absence of such problems at the dispensing level.

Reasons for Quality Problems

A vertometer or lensometer is an instrument for determining the optical properties of a lens. It is used

by all levels of the industry. It was suggested by Dr. Campbell of the Bureau of Medical Devices, Department of National Health and Welfare, that faulty vertometers may be creating a quality problem in the industry. The evidence on the possibility of vertometers being off calibration dealt principally with the ways of checking the instrument rather than with the frequency of such an occurrence.

It is obviously in the interest of anyone who relies on a vertometer to ensure that it functions properly. Mr. E. Brook, an optician with considerable experience, described how a vertometer can be checked without outside aids. The calibration of the instrument can be easily verified with the use of a trial lens set.* Since the powers of the lenses are known beforehand, any significant discrepancy in the readings is conclusive evidence that the instrument needs adjusting. It is interesting that Imperial made a point of ensuring that trial lens sets were distributed to its laboratories only after the inquiry got underway. Moreover, at the time of the Commission's visit to Imperial's largest laboratory in Edmonton, only two trial lenses were available, both of which were in very low powers and hence could not possibly provide a complete check of the calibration.

Given that the cost of a trial lens set with an adequate range of powers is probably low compared to the cost to a laboratory of any volume of returned work, it might be asked why Imperial (and perhaps other laboratories) did not make a practice of having trial lens sets in all their laboratories. With a trial lens set it would be a simple matter to check vertometers on a daily basis. A possible explanation is that in practice there is feedback of various kinds which permits a vertometer which is off calibration to be identified fairly quickly. Mr. McLean, an optician with several outlets, said that the way that he learns of trouble with his vertometer is when he has a disagreement with a laboratory as to whether a prescription has been properly done. Similarly, the route by which a laboratory might learn

* Mr. Adamson gave evidence about a more sophisticated device recently introduced to the market that can also be employed.

of a problem with its vertometer is through the complaints of its customers. This would be a very costly way for a laboratory to obtain this information. It would appear far more likely that a difficulty would show itself sooner. For example, stock lenses are used for a great part of the prescriptions that are filled in a laboratory. Although a stock lens cannot be regarded as produced to as close tolerances as a trial lens, the checking of work incorporating stock lenses would reveal whether a vertometer was off calibration to an appreciable extent.

Unfortunately, the Commission did not receive any evidence as to how frequently vertometers become faulty, nor the extent to which they are off calibration when they do. Given the importance of these instruments in verifying prescriptions (and often in determining them, as occurs when lenses are replaced or a second pair of glasses is purchased and the old pair is used to determine the prescription), unless the manufacturers are able to give very strong guarantees as to the continued accuracy of their instruments, it strikes the Commission as ordinary prudence for all owners of vertometers to possess and utilize the means for doing periodic checks.

Turnover and quality of employees were cited as factors affecting quality. Since both are related to wage and salary scales, an increase in rates of remuneration might be seen to lead to an improvement in quality. If quality problems are importantly related to rates of pay other mechanisms for ensuring improved quality can be expected to feed back to pay scales as firms are forced to meet quality requirements.

The Canadian Association of Optometrists' conclusion from its questionnaire survey was:

We feel that the survey results and the clearly identifiable consensus of opinion it represents, have convincingly pointed out that there is a real and immediate need for the establishment of scientifically prescribed standards for ophthalmic devices in Canada.

The quotations from the briefs of provincial optometric associations contained in the CAO's brief all indicate support

for the establishment of some kind of standard for ophthalmic materials and workmanship of ophthalmic laboratories. Several of them (the briefs of British Columbia, Quebec, Manitoba, New Brunswick, Prince Edward Island) support the idea of establishing governmental standards without indicating which level of government should promulgate such standards while others (the briefs of Ontario, Nova Scotia and Newfoundland) favour the idea of federal government standards. The excerpt from the brief of the Saskatchewan Optometric Association, however, does not appear to support the establishment of government standards and the Alberta Optometric Association indicated that it ". . . fully support(s) any move by CAO to devise Canadian Sets of Standards regarding all ophthalmic materials used in this country." The Manitoba Optometric Society's brief to CAO referred to ". . . the creation of standards set by the government and enforced by the optometrists."

CAO's brief expressed concern over the quality of workmanship at laboratory level, a matter which gave it unease because a vast majority of optometric prescriptions which are filled by opticians are never returned to the optometrist for a rigorous, final examination. CAO therefore recommended that ". . . in addition to establishing standards for materials used, further consideration be given towards the establishment of controls for the accuracy and quality of the materials provided to the dispensers by ophthalmic laboratories."

Dr. Irving Baker, Registrar of the Ontario College of Optometrists, seemed to be lukewarm about the idea of legislating technical standards:

. . . some of us feel that element [tolerance levels] has to be more closely held in order to do the things you want it to do for that particular patient and labs are very cooperative in this sense. I am not aware of any difficulty this way, but the minimum standards could be set, although I have a reservation, incidentally, about minimum standards.

Anything that is always put forward as a minimum in my experience, also becomes a maximum, so I think, as soon as you try to codify you get into this type of situation where sometimes it doesn't, you know, raise the level, sometimes it tends to drop the level because everybody says that is the law.⁶

Mr. Abramson and Mr. Banting, representatives of Western Optical indicated that they would be in favour of standards established by the government. However, Mr. Banting doubted that quality could be controlled in that way.

Mr. Tytel, of Monarch Optical, did not think that there was any need for publicly adopted or defined quality standards for eyeglasses because in his opinion optometrists and opticians inspected lenses carefully enough. Even though Mr. Tytel said that he thought that the chances of something being poorly dispensed through vertically integrated companies were greater than through a totally independent source, his concern was not great enough to change his views on the matter of publicly defined or adopted quality standards.

Counsel for AOCO, Mr. John Brown, Q.C., submitted that the evidence presented did not demonstrate a general quality problem. He stated that ultimate responsibility for quality had to reside with the dispenser and that training and licensing were the only remedies. However, he did say that medical devices legislation provided an avenue for national standards to be established.

Dr. John Evans, an economist at the University of British Columbia saw a trade-off between the formal training and licensing requirements of opticians and the need for quality standards. The stricter and more complete the quality standards, the less need for opticians' training and licensing.

Mr. Sidney Hermant, President of Imperial, said that while public standards might be a good idea, the level of quality would still depend on the integrity of the people supplying the product.

Conclusions Regarding Quality Standards

The most pressing question with regard to the level of quality of spectacles remains unanswered: whether the product which reaches the consumer is defective in any serious way. Although part of this question has been answered in the affirmative for frames, there is little positive action which can be taken since frames are widely regarded as an

item of apparel as well as a medical device. Moreover, the positive attitude to wearing glasses that many would trace to the attractive frames which are available strongly suggests that any attempts to introduce a measure of quality control to frames must not impair the wide range of consumer choice now available.

Leaving the area of frames and turning to the quality of lenses and the fabrication of complete spectacles, there is very limited information. Although there is evidence that careful screening of the output of laboratories is necessary, what is not known is how successfully this screening is accomplished. There are costs to dispensers when they make returns to the laboratory - it is time consuming, causes customer dissatisfaction because of delays and may strain relations with the laboratory. Given these costs, dispensers, like laboratories, may have an incentive to be less than totally diligent in monitoring quality. Whether they respond to this incentive depends on the dispensers' professional pride and the perceived risk that the consumer will be unhappy with the result. Although there is no evidence that the expressed fear that dispensers working in vertically integrated firms might be reluctant to return inferior quality work to their laboratory because of actual or feared repercussions has been realized, it is a consideration that should not be ignored.

Moreover, it must be remembered that many dispensers (primarily opticians) do their own finishing work and are called upon as dispensers to judge their own efforts.

Although Dr. Rosner in Winnipeg found instances of poor quality having reached the consumer, there is not sufficient evidence to conclude that consumers are experiencing problems which require serious attention.

In spite of this conclusion, a case can be made for the development of minimum national standards. Fears have been expressed that widespread price advertising could lead to a deterioration of quality. Whether or not these fears are justified, the existence of minimum standards could provide reassurance to legislators, consumers and those in the industry who are concerned about the level of quality. In

addition, by advertising that their product meets or exceeds minimum national standards, firms, whether they compete on the basis of price advertising or not, could provide an implicit warranty while reassuring consumers that lower prices do not necessarily entail inferior quality.

The process of developing minimum national standards could lead to a greater concern for quality and improved communication among the various sectors of the industry if the standards were arrived at in a way which encouraged input from all sectors of the industry. Wide reporting of the reasons which led to the input of refractionists, dispensers and suppliers should result in an improved appreciation of both the desirable and the realistic in the development of minimum standards.

The process of developing minimum national standards could provide benefits which would mainly be of a short-term nature. Apart from their use to provide a consumer warranty, what value would they provide after they had been in existence for some time? The experience reported on in the New York City area suggests that national standards (or any non-binding standards) are not very useful without some kind of enforcement machinery. This conclusion indicates that firms are unlikely to incur what they regard as unnecessary costs. As long as a supplier can keep his customers satisfied without applying non-binding standards, it is unlikely to pay much attention to them.* Thus any appreciable value from minimum national standards would only be realized if a cheap and reasonably effective method of enforcement could be developed.

The other requirement is a method of obtaining and integrating inputs from all parties in the ophthalmic products industry. Apparently there have been unsuccessful attempts to develop national standards in the past. The fact that the goal was not realized as well as considerations of enforcement suggest that some degree of government involvement is necessary. As has been suggested to the Commission,

* It is only fair to note that ignoring non-binding standards does not necessarily mean working to less stringent standards.

the most expeditious way of establishing minimum national standards is via the Bureau of Medical Devices of the Department of National Health and Welfare. The resulting standards could then be published as regulations under the Medical Devices Act.

The only argument that has been registered against minimum national standards is that they could become the standards rather than the minimum. This is a difficult argument to accept. When a pair of glasses is ground on one side by a laboratory, or lenses and frames are assembled together, it is not a matter of working to given tolerances. The object is to do the task and only later, at the checking stage, does the question of tolerances arise. In the same way that someone shooting at a target is advised to aim at the bullseye, a laboratory technician can be expected to try to do the assigned task in the same way regardless of whether tolerances are wider or narrower.

The extent to which minimum national standards might influence quality would depend on enforcement procedures and how the standards compared to those in effect. The view that there are good grounds for the development of national standards, but that the need has not been shown to be a pressing one, should condition the approach taken to enforcement. While it might be feasible and perhaps not too costly to institute enforcement at the laboratory level, this would mean that foreign laboratories which service some Canadian dispensers would not be covered. Alternatively, the imposition of the Canadian standards then would probably result in the erection of an insurmountable non-tariff barrier. In addition, enforcement at the commercial laboratory level would miss the numerous dispensers who do their own finishing work.

Ultimate responsibility for standards now rests with dispensers (except in those instances where the refractionist checks the patient's glasses). It is difficult to see how the situation could be otherwise after minimum national standards had been developed. As inexperienced buyers, consumers would still be vulnerable to receiving dispensed glasses the quality of which they could not judge. The one difference would be that a consumer who had occasion to have his glasses checked would be told more than "this is poor work", but that "these glasses

are outside minimum acceptable standards." The existence of objective standards should provide consumers with much easier recourse.

In provinces where opticians are licensed the conformity of an optician's work with minimum national standards appears to be a reasonable requirement for an optician to remain in good standing with the provincial licensing board. The same holds true *a fortiori* for optometrists. Where there is no licensing of opticians, it would be hoped that instances of opticians failing to fulfil their responsibility would be well publicized by provincial consumer bureaus or similar organizations. It can be expected that the negative impact of such publicity on refractionists' referrals and directly on consumers' choices would serve as an effective policing mechanism.

It can be questioned whether opticians in provinces without licensing requirements should assume responsibility for meeting national standards. However, there has been no evidence before the Commission that opticians in provinces without licensing requirements perform different functions than those in other provinces. In all cases they transmit the refractionist's prescription along with their own measurements which are necessary for a complete work order for the laboratory. Accordingly, they should be able to check the spectacles when they are returned from the laboratory.

If it should develop that laboratories consistently turn out sub-standard work, making the task of dispensers very difficult, the existence of objective standards should make it easy to document such cases and thus give rise to a change in government policy.

CHAPTER X

CONTACT LENSES

Early developments in contact lenses have been traced back to 1887. Moulded glass was used then and until plastic lenses were introduced in 1938. These were scleral lenses covering the entire front part of the eyeball and are important in the treatment of certain medical conditions. The contact lens in common use, the corneal contact lens, was designed in 1948.

Dominion Contact Lens Laboratories Limited was started in 1945, the second such establishment in Canada. It was preceded by a subsidiary of a United States company that later discontinued production in Canada. Dominion was the only domestic contact lens producer in the late 1950's when Imperial sought to enter into contact lens production through a partnership arrangement with the owners of Dominion. According to Mr. Harold A. File, President of Dominion, Imperial wanted to expand the contact lens market by having Mr. File train contact lens fitters. A lack of interest on the part of the owners of Dominion led Imperial to seek production and fitting expertise elsewhere and in 1959 Plastic Contact Lens Company (Canada) Ltd. (P.C.L.) was established under the equal ownership of Imperial and a United States firm, The Plastic Contact Lens Company Inc., a subsidiary of Wesley-Jessen.

Since their introduction in Canada in 1970 by Bausch & Lomb, soft contact lenses have occupied an ever-greater share of rapidly growing contact lens sales. Shown below are laboratory shipments of contact lenses reported by Statistics Canada between 1967 and 1974¹ together with information for 1975 collected by the Commission:

(\$'000)

1967	855
1968	1,125
1969	1,582
1970	1,389
1971	1,618
1972	1,979
1973	3,186
1974	5,411
1975	8,644*

Immediately obvious is the rapid growth in shipments, growth which was particularly marked after 1972. Although shipments declined in 1970, it is highly unlikely that there was a corresponding decline in sales. Imported soft contact lenses were introduced in Canada that year; it is not until the following year that the rapid increase in soft contact lens sales begins to show up in shipments from Canadian production establishments. In 1973 soft contact lenses accounted for 46 per cent of the two-thirds approximately of sales for which a₂ division between hard and soft contact lenses is available.² By 1975 the proportion of laboratory sales accounted for by soft contact lenses had grown to 68 per cent, a figure that may understate the extent to which soft contact lenses were being prescribed for new users. Mr. File said that 70 to 80 per cent of new case demand consists of soft contact lens prescriptions but there was still a considerable demand for hard contact lens requirements.

* In a survey similar to that of the Commission, the Director of Investigation and Research found total sales of contact lens laboratories in 1970 totalled \$1,706 (thousand). (Source: Table XIII of the Green Book.) This compares with \$1,389 (thousand) of total shipments reported by Statistics Canada for that year. Whatever the reason(s) for the difference, its existence raises the possibility that part of the growth in sales between 1974 and 1975 is the result of more complete survey coverage by the Commission.

In considering the remarkable rate of growth of contact lens sales, one point on which, unfortunately, there is no substantial evidence is the extent to which such sales replace those of spectacles or, conversely, form an addition to the demand for ophthalmic products.

Although conventional and contact lenses may be used to satisfy the same prescription values, they are two distinct products and at most levels of supply contact lenses can almost be considered to be supplied by a distinct industry. Dispensing contact lenses is an entirely different operation from that of conventional lenses: the measurements required to obtain a good fit are different; teaching the client how to wear and care for the lenses is far more important in the case of contact lenses; and the contact lens fitter must be aware of and be able to recognize the health problems that can develop from contact lens wear. The central task confronting the contact lens fitter is in ensuring that the contact lenses correctly conform to the curvature of the eye. They are aided in this task by a keratometer, or ophthalmometer, an instrument that ". . . measures the central zone, or optic cap, of the cornea which has a diameter of 5 to 7 mm. . . ."³ The keratometer reading provides the necessary information to translate the prescription or the measurement of the refractive error of the eye into a lens suited for the particular patient. However, the contact lens does not rest on the area of the eye measured by the keratometer. It generally extends a millimeter or so beyond the optic cap and it is the bevelled edges of the contact lens which rest on the eye and they must be flatter than the curvature provided by the keratometer reading.

The members of the contact lens fitters group differ considerably from those of dispensers of spectacles. Although ophthalmologists and oto-laryngologists dispense only a negligible amount of spectacles, in areas where a dispenser is not available, they fit an appreciable percentage of contact lenses. A questionnaire survey of contact lens laboratories undertaken by the Commission (reported in Tables 14 to 18) shows that in 1975 ophthalmologists accounted for 18 per cent of contact lens purchases. This figure somewhat understates their participation as contact lens fitters in the larger cities, where ophthalmologists tend to be located. If the

areas outside of the 38 cities which were identified as separate locations in classifying the questionnaire information are not included (i.e., "Other Alberta"), ophthalmologists made 21 per cent of the purchases by contact lens fitters. In that same year, optometrists accounted for 35 per cent (as compared with 39 per cent of conventional lens purchases). The remaining 47 per cent was made by ophthalmic dispensers.

Contact lenses pose hazards not found in dispensing conventional lenses. The main effects of poorly prescribed or fabricated conventional lenses are physical discomfort in the form of headaches and eyestrain, and the dangers associated with poor eyesight when one is driving a car or engaging in other activities which could lead to physical injury. Poor judgment or mistakes in prescribing, fitting and wearing contact lenses can seriously damage the eyes, in the extreme resulting in loss of sight to various degrees.

Certain conditions of the eye militate against the wearing of contact lenses. Other factors contra-indicate the use of contact lenses such as psychological factors, physical disabilities or hygienic requirements.

In the absence of some form of control of contact lens fitters, there is a danger that unless the prescription written by an ophthalmologist or an optometrist specifies contact lenses, it can be filled with either conventional or contact lenses. Identical legislation governing opticians in Nova Scotia and in Prince Edward Island (Sec. 13(2)) requires that:

No dispensing optician shall measure, fit or adjust contact lenses unless he holds a certificate of special qualification issued by the Board and the measuring, fitting or adjusting of contact lenses shall be done only at the direction of a duly qualified medical practitioner or optometrist.

Provisions similar to the above are found in the recently enacted legislation covering dispensers in Saskatchewan.

TABLE 14
CANADIAN SALES TO DISPENSERS OF HARD CONTACT LENSES,
BY SUPPLIER, 1975⁺

	Opticians		Optometrists	Ophthal- mologists	Total
	Imperial Affiliates	Other Opticians			
	\$	\$	\$	\$	\$
Plastic Contact Lens	571,736	287,451	398,160	174,202	1,431,549
Veracon	-	29,600	187,167	21,200	237,967
N & N	23,107	82,965	112,454	9,180	227,706
Canadian	611	83,486	48,301	50,319	182,717
Other suppliers*	10,167	268,548	177,062	113,234	608,162**
Total	605,621	752,050	923,144	368,135	2,688,101**

SOURCE: Commission's questionnaire survey.

* Includes AOCO, Dominion, Gormac, Kelvin, Lentico, Morgan, Opti-Contact, Sanger, Vilico, Viscon and Visioptics-Paracon.

** The total exceeds the amount obtainable by adding up the cells by 39,151, for which value a division of sales among types of dispensers was not available.

+ See the footnote to Table 18 also.

TABLE 15
CANADIAN SALES TO DISPENSERS OF SOFT CONTACT LENSES
BY SUPPLIER, 1975⁺

	Opticians		Optometrists	Ophthal- mologists	Total
	Imperial Affiliates	Other Opticians*			
	\$	\$	\$	\$	\$
Bausch & Lomb	262,819	910,653	640,349	593,049	2,406,870
N & N	114,820	269,053	653,720	103,200	1,140,793
Union	39,370	232,153	318,608	132,024	722,155
Veracon	-	56,000	362,992	32,000	450,992
Plastic Contact Lens	104,657	113,481	87,468	46,184	351,790
Dominion	26,624	98,296	133,643	47,449	306,012
Other suppliers**	498	169,076	110,174	66,724	399,362
Total	548,788	1,901,602	2,306,954	1,020,630	5,777,974

SOURCE: Commission's questionnaire survey.

* Because a complete division of Morgan's sales among types of buyers was not available, all of that firm's sales were included in the category "other opticians".

** Includes Canadian, Corneal, Kelvin, Morgan, Opti-Contact, Sanger and Vilico.

+ See the footnote to Table 18 also.

TABLE 16
PERCENTAGE DISTRIBUTION OF HARD CONTACT LENS SALES
BY SUPPLIER, DISPENSER AND PROVINCE, 1975

	Opticians		Optom- etrists	Ophthal- mologists	Totals
	Imperial Affiliates	Other Opticians			
<u>British Columbia</u>					
Plastic Contact Lens	30.37	9.60	10.24	12.27	62.48
N & N	3.01	9.67	10.10	0.14	22.92
Morgan	-	14.50	-	-	14.50
Others (4)	-	0.10	-	-	0.10
Total	33.38	33.87	20.34	12.41	100.00
<u>Alberta</u>					
Plastic Contact Lens	20.14	12.49	9.94	4.21	46.78
Viscon	-	14.64	14.64	-	29.28
N & N	2.64	6.64	9.19	1.65	20.12
Others (1)	-	2.36	1.46	-	3.82
Total	22.78	36.13	35.23	5.86	100.00
<u>Saskatchewan</u>					
Plastic Contact Lens	35.79	13.82	31.61	-	81.22
N & N	-	0.43	16.95	-	17.38
Others (1)	-	0.75	0.65	-	1.40
Total	35.79	15.00	49.21	-	100.00
<u>Manitoba</u>					
Plastic Contact Lens	28.18	23.56	31.04	4.73	87.51
Others (4)	1.37	8.26	1.97	0.89	12.49
Total	29.55	31.82	33.01	5.62	100.00
<u>Ontario</u>					
Plastic Contact Lens	25.80	10.90	13.38	7.43	57.51
Opti-Contact	0.11	5.82	4.67	4.83	15.43
Kelvin	0.20	3.63	1.02	5.79	10.64
Others (5)	0.58	10.32	4.18	1.34	16.42
Total	26.69	30.67	23.25	19.39	100.00
<u>Quebec</u>					
Veracon	-	4.31	27.28	3.09	34.68
Plastic Contact Lens	2.78	7.90	12.37	2.99	26.04
Canadian	0.09	10.91	5.87	7.33	24.20
Others (6)	0.08	11.22	3.42	0.36	15.08
Total	2.95	34.34	48.94	13.77	100.00
<u>New Brunswick</u>					
Plastic Contact Lens	16.87	10.23	48.47	9.98	85.55
Others (2)	-	0.18	14.27	-	14.45
Total	16.87	10.41	62.74	9.98	100.00
<u>Nova Scotia</u>					
Plastic Contact Lens	11.57	42.71	25.14	18.60	98.02
Others (2)	-	-	1.21	0.77	1.98
Total	11.57	42.71	26.35	19.37	100.00
<u>Prince Edward Island</u>					
Plastic Contact Lens	-	30.53	63.20	-	93.73
Others (1)	-	6.27	-	-	6.27
Total	-	36.80	63.20	-	100.00
<u>Newfoundland</u>					
Plastic Contact Lens	70.69	9.03	0.27	8.34	88.33
Canadian	-	-	10.17	-	10.17
Others (2)	-	-	1.50	-	1.50
Total	70.69	9.03	11.94	8.34	100.00

SOURCE: Commission's questionnaire survey.

TABLE 17

PERCENTAGE DISTRIBUTION OF SOFT CONTACT LENS SALES
BY SUPPLIER, DISPENSER AND PROVINCE, 1975

	Opticians		Optom- etrists	Ophthal- mologists	Totals
	Imperial Affiliates	Other Opticians			
<u>British Columbia</u>					
Bausch & Lomb	9.08	25.57	5.18	5.16	44.99
N & N	1.63	9.54	23.78	4.86	39.81
Others (4)	1.92	9.43	3.28	0.57	15.20
Total	12.63	44.54	32.24	10.59	100.00
<u>Alberta</u>					
N & N	7.32	8.40	19.58	3.47	38.77
Bausch & Lomb	9.80	6.42	9.23	8.30	33.75
Corneal	-	9.55	3.41	0.68	13.64
Others (3)	2.14	3.96	5.50	2.24	13.84
Total	19.26	28.33	37.72	14.69	100.00
<u>Saskatchewan</u>					
N & N	0.79	2.34	43.89	-	47.02
Bausch & Lomb	4.05	15.67	4.83	0.05	24.60
Union	2.05	0.46	6.97	4.06	13.54
Plastic Contact Lens	4.48	7.43	-	-	11.91
Others (2)	-	1.57	1.36	-	2.93
Total	11.37	27.47	57.05	4.11	100.00
<u>Manitoba</u>					
Bausch & Lomb	6.68	16.02	5.51	8.81	37.02
Union	4.10	21.02	4.88	1.17	31.17
N & N	0.07	7.02	9.67	1.34	18.10
Others (3)	2.29	8.50	2.78	0.14	13.71
Total	13.14	52.56	22.84	11.46	100.00
<u>Ontario</u>					
Bausch & Lomb	3.22	17.28	8.83	14.17	43.50
Union	0.87	4.34	6.83	4.93	16.97
N & N	2.60	5.13	6.02	1.51	15.26
Dominion	1.10	3.67	5.96	2.38	13.11
Others (5)	2.01	4.80	1.79	2.56	11.16
Total	9.80	35.22	29.43	25.55	100.00
<u>Quebec</u>					
Bausch & Lomb	1.00	11.48	16.52	7.40	36.40
Veracon	-	4.11	26.65	2.35	33.11
Others (7)	0.92	12.01	14.32	3.24	30.49
Total	1.92	27.60	57.49	12.99	100.00
<u>New Brunswick</u>					
Bausch & Lomb	-	13.31	42.14	1.72	57.17
Plastic Contact Lens	0.72	1.62	8.61	5.06	16.01
N & N	-	3.18	8.65	-	11.83
Others (3)	-	0.25	14.74	-	14.99
Total	0.72	18.36	74.14	6.78	100.00
<u>Nova Scotia</u>					
Bausch & Lomb	1.31	2.82	26.93	45.55	76.61
Plastic Contact Lens	2.83	4.10	3.00	4.74	14.67
Others (4)	-	2.13	5.43	1.16	8.72
Total	4.14	9.05	35.36	51.45	100.00
<u>Prince Edward Island</u>					
Bausch & Lomb	-	60.80	10.18	-	70.98
N & N	-	9.65	6.57	-	16.22
Plastic Contact Lens	-	-	12.80	-	12.80
Total	-	70.45	29.55	-	100.00
<u>Newfoundland</u>					
N & N	-	-	39.23	-	39.23
Plastic Contact Lens	24.89	2.65	-	-	27.54
Canadian	-	-	24.94	-	24.94
Others (2)	-	3.32	4.97	-	8.29
Total	24.89	5.97	69.14	-	100.00

TABLE 18
PURCHASES OF CONTACT LENSES* BY DISPENSING OUTLETS,
BY LOCATION, 1975

Location	Opticians		Optom- etrists	Ophthal- mologists	Total
	Imperial Affiliates	Other Opticians			
	\$	\$	\$	\$	\$
Kamloops	1,144	4	27,038	10,594	38,780
Vancouver	136,986	347,507	197,441	84,738	766,672
Victoria	35,730	40,298	38,802	16,323	131,153
Other B.C. & Yukon	81,719	61,596	128,428	39,924	311,667
Calgary	103,816	89,994	53,539	76,010	323,359
Edmonton	90,049	73,978	144,283	9,985	318,295
Medicine Hat	141	231	2,972	25,494	28,838
Other Alberta	21,876	35,078	100,327	832	158,113
Regina	31,493	31,447	73,337	10,790	147,067
Saskatoon	28,939	52,270	78,251	124	159,584
Other Sask. & N.W.T.	18,984	6,131	67,505	-	92,620
Brandon	13,010	1,167	4,633	10,800	29,610
Winnipeg	62,567	212,555	81,564	32,428	389,114
Other Manitoba	-	8,158	28,101	3,873	40,132
Brantford	312	3,902	13,781	14,621	32,616
Guelph	17,234	2,047	1,429	3,128	23,838
Hamilton	21,739	60,634	43,758	24,170	150,301
Kingston	4,063	21,546	4,477	32,294	62,380
Kitchener	2,711	6,954	41,469	16,067	67,201
London	40,611	34,802	25,204	24,265	124,882
Oshawa	241	1,155	17,601	9,950	28,947
Ottawa	40,366	149,078	76,753	109,180	375,377
Peterborough	1,416	-	14,495	22,881	38,792
St. Catharines	39,497	6,166	26,571	36,463	108,697
Sarnia	-	9,027	10,767	5,547	25,341
Sault Ste Marie	4,448	7,619	5,282	15,087	32,436
Sudbury	3,054	12,144	30,520	8,440	54,158
Thunder Bay	12,357	4,440	8,349	56	25,202
Toronto	192,656	551,699	251,297	304,185	1,299,837
Windsor	4,183	6,925	8,397	716	20,221
Other Ontario	55,501	30,435	211,257	52,467	349,660
Chicoutimi	-	2,941	7,358	3,453	13,752
Montreal	44,974	326,944	369,657	125,388	866,963
Quebec	1,092	51,789	44,517	57,864	155,262
Shawinigan	-	3,691	794	-	4,485
Sherbrooke	300	15,064	4,888	13,451	33,703
Trois-Rivières	-	10,826	22,362	8,313	41,501
Other Quebec	-	31,511	119,268	9,639	160,418
Moncton	677	100	48,894	2,174	51,845
Saint John	7,776	11,876	1,765	3,469	24,886
Other New Brunswick	-	15,839	70,919	7,372	94,130
Halifax	10,973	19,836	20,370	90,339	141,518
Sydney	30	-	16,614	1,331	17,975
Other Nova Scotia	232	6,219	33,827	4,796	45,074
Charlottetown	-	13,401	5,173	-	18,574
Other P. E. I.	-	2,147	3,708	-	5,855
St. John's	20,902	1,863	8,617	-	31,382
Other Newfoundland	610	1,149	1,132	2,262	5,153

SOURCE: Commission's questionnaire survey.

TABLE 18 - Continued

- * A number of firms could not provide a breakdown of their lens sales by location of customer. The names of these firms and the treatment accorded their lens sales data are indicated below:

Veracon's sales are assumed to have been made wholly in the Province of Quebec.

The sales of Visioptic, Paracon and Lentico are assumed to have been made entirely in the Province of Quebec.

The sales of Viscon and Corneal are assumed to have been made wholly in Alberta.

Morgan's sales are assumed to have been made wholly in British Columbia.

The sales data so attributed were contained in Tables 14 and 15.

The data shown in these tables are therefore incomplete and, as a result, the Canadian total obtainable falls short of the sum of the Canadian total derivable from Tables 14 and 15 by nearly \$1 million. Virtually all of this shortfall occurs in Quebec locations.

In Alberta, the Ophthalmic Dispensers Act (Sec. 36) provides:

No person shall

- (a) supply or prepare a contact lens, or
- (b) measure, adjust or adapt a contact lens for an intended wearer,

unless he is a member of the Guild and the holder of a certificate of competency in dispensing contact lenses and does so in accordance with a complete prescription of, and subject to the direction of and under the supervision of, an ophthalmologist or optometrist.

Contact lens certificates are required in Manitoba and under the recently enacted legislation (1977) of New Brunswick. Courses in contact lens fitting are part of the curriculum for dispensing opticians in Quebec. It is probably understood that contact lenses may only be dispensed in these provinces where specifically prescribed. A grandfather clause in the Quebec legislation specifically permits contact lens fitters already practising in that field to continue to do so.

Ontario is currently undertaking revision of that part of the Health Disciplines Act dealing with opticians and the controversy surrounding the role of opticians in the contact lens field was highlighted during the Hearings by the testimony of Ontario optometrists and opticians. In Ontario, however, the definition of ophthalmic dispensing is sufficiently wide to embrace contact lenses. A lecture course leading to a certificate in contact lens fitting is offered to Ontario opticians in Toronto. There are about 40 opticians who have obtained certificates. The Code of Ethics of the Contact Lens Fitters Association of Ontario, which contact lens fitters must sign before receiving certification, reads, in part:

I will fit no one with contact lenses without the knowledge and consent of a qualified medical practitioner.

However, opticians need not be members of the Association to fit contact lenses and so might well fit them on an optometrist's prescription although it is difficult to imagine many such cases arising. While it can be assumed that most certificate holders are highly active in contact lens fitting, it is not known how important a factor they are in the provision of this service by opticians.

Since British Columbia* and Newfoundland do not have any legislation governing ophthalmic dispensing it is possible for anyone to dispense contact lenses as well as conventional lenses.

The absence of legislation requiring special training for contact lens fitters does not necessarily mean that fitting provided by non-optometrists and non-ophthalmologists is badly done or inadequately supervised. Training is available to opticians throughout the country and the degree of supervision exercised by ophthalmologists over contact lens fitters probably depends on the relationship between them in specific cases. The Canadian Guild of Dispensing Opticians, an organization that was set up by and receives back-up support from Imperial, offers home study courses to opticians, including one on contact lens fitting. Although the majority of the members of the Guild are associated with Imperial as partners or employees, membership in the Guild and its courses are available to everyone.

A certain amount of training is also available from companies when they introduce a new lens. When Bausch & Lomb introduced its soft lens it held seminars throughout the country for ophthalmologists, optometrists and opticians. In addition, a company such as P.C.L. offers consultation services for fitters who are confronted with difficult cases.

* However, the Regulations governing optometrists in British Columbia make it unprofessional conduct for a member to permit a person who is not a registered optometrist or ophthalmologist to use an optometrist's prescription or findings to fit contact lenses upon any person. (Sec. 34(e))

Contact lens fitters whether or not governed by legislation, are required to make an investment in equipment, trial lens sets and in acquiring the necessary skills. Not all opticians operate as contact lens fitters and those that do tend to specialize. The existence of specialization means that much of the fitting is done by those with specific training. In addition it can be hoped, if not assumed, that those with less formal training acquire an acceptable level of competence through experience. Mr. John McKeating, who is the owner of a contact lens fitting service and hard contact lens laboratory in Montreal, said that slightly less than one-quarter of opticians and about one-fifth of optometrists in Montreal fit contact lenses. He also said that a small number of ophthalmologists specialized in contact lens fitting.

The conditions under which contact lenses are fitted are much affected by what appears to be confrontation between optometrists, on one side, and ophthalmologists and opticians on the other. Official spokesmen for optometrists in Quebec and Ontario voice their opposition to opticians being permitted to fit contact lenses. However, many arguments appear to be directed against the right of opticians to dispense contact lenses in the absence of a prescription which explicitly requires them. In addition, it appears that it is difficult to evaluate a soft contact lens once it is in the hydrated state and one of the techniques for dealing with this difficulty is to perform a refraction while it is worn by the client. Since by law only medical doctors and optometrists are permitted to perform a refraction, this technique is closed to opticians.

Dr. Green, Chairman of the Ophthalmological Section of the Manitoba Medical Association, was asked about his views on the conditions under which contact lenses should be prescribed and fitted:

- Q. Do you think anybody other than the ophthalmologist should be prevented from fitting contact lenses?
- A. No, the ideal situation would be a plan whereby a person who is properly trained could decide, first of all, if the individual is capable of wearing the contacts,

if eligible to wear the contacts, and then follow them up to see there is no untoward problem from wearing the contacts.

Q. So long as the contact is fitted by an optician?

A. The actual fitting is a technical problem.

Q. But it has to be done under the supervision and continuing surveillance of an ophthalmologist?

A. I wouldn't say an ophthalmologist, but someone who has the necessary training.

Q. Would that be an optometrist?

A. I think many of the well trained optometrists coming out of the present schools are quite adequate to.

Q. Would you have them certified?

A. I think there could be a case made.

Q. That is both on the optician and optometrist level?

A. Yes.

Q. Is that your own feeling?

A. Yes, my own feeling.

Q. They should require special certification before they get into the field of contacts?

A. I think there should be something to protect the individual and if that requires special certification, yes.

Q. I take it it is because of the special danger of contacts, because it goes right on the eyeballs, is that it?

A. A foreign object sitting on your eye.⁴

The Production of Contact Lenses

The leading supplier of soft contact lenses, Bausch & Lomb, was, until recently, one of only two companies whose soft lenses had Federal Drug Administration approval in the United States, where soft lenses are treated as a drug. The Federal Drug Administration had required that soft lenses be heat sterilized, which meant that the material from which the lenses were made had to be able to withstand a heat treatment while retaining its necessary optical properties. It is the understanding of the Commission that chemical sterilization is now accepted by the Federal Drug Administration.

The effect of treating soft contact lenses in Canada as a medical device rather than a drug was described by Dr. Campbell, Chief of the Division of Medicine in the Bureau of Medical Devices, Department of National Health and Welfare:

To get one of these things cleared by the Food and Drug Administration normally takes about three years. Some of them in the case of the soft contact lenses have been there for five years and haven't been cleared yet.

If at any stage in that process the manufacturer makes a change in the technology, then his whole application goes back to the beginning and he has to start all over again. This obviously means that a manufacturer in the States is not going to change anything until his application has been cleared by Washington.

In this country, from the very beginning, the soft contact lenses have been regarded as devices, rather than as drugs and, therefore, we are not subject to that intensive premarketing scrutiny which drugs are subject to.⁵

In effect the regulation of soft contact lens production is dependent on the voluntary compliance of producers.

Since producers have not been bound by the strict regulations that would have been imposed if soft contact lenses were treated like a drug, they have been free to seek raw materials throughout the world. With the exception of Canadian Contact Lens Laboratories Ltd. which produces its own material for soft lenses, they import the raw materials for both hard and soft lenses. Bausch & Lomb buys its raw material, which is produced under an exclusive patent licence,⁶ from its parent company in the United States. N & N, the second largest soft lens laboratory, imports its buttons from Japan. N & N is, in turn, the source of soft lens buttons for Veracon, a large Quebec laboratory. Dominion buys its buttons in the United Kingdom.

Based on the experience of Dominion, the cost of a hard lens blank is 10 to 15 cents; for soft blanks it is one to two dollars. Quantity discounts can make a considerable difference in the prices charged by the British source of soft lens blanks used by Dominion. Mr. File estimated that on the basis of Dominion's earlier purchases of 100 blanks at a time, rather than "thousands", the price would be \$3.50 or \$4.00. Quantities as small as 100 would be purchased only by beginning laboratories or those trying out a new source of materials. However, if quantity discounts are common over a range of much larger volumes these can create significant differences in the raw material costs of laboratories, though not in their total costs as indicated by the fact that the laboratory price of a finished lens was \$20.*

Several production methods are used. In the early years, lenses were moulded, a method which is now rarely used. Mr. File described the most widely used procedure, which might be termed the "lathe method":

* This was the most widely quoted price before the application of volume discounts. The laboratory price of a hard lens was \$12.

Basically you start out with both hard and soft lenses and you start out with a button approximately half an inch in diameter, a quarter of an inch thick. You cut the back surface or the concave surface with a radius diameter cutter, polish that, you mount that blank with the inside surface cut and polished on what we call an arbour, mount it in a lathe, cut the front surface to given parameters, given thickness, polish that, and that would give you the lens then, with the inside optical surface and outside optical surface to the thickness you require.

Then you cut it to the size you want, finish the edges, round it and put the bevels on the inside the way that is called for in the specifications.

If it is a hard lens, it is finished. If it is a soft lens, then you put it in a solution and hydrate it and the hardened lens then comes out as what is known as a soft lens.⁷

When Bausch & Lomb introduced its soft lens it used the "spuncast method". It first introduced the "lathe" soft lens in the spring of 1976, well after other firms were using it. The detailed production procedures were said by Mr. Curran to be highly secret, involving a completely new process. Whether or not there are any important differences in production procedures among the lathe soft lenses of different companies, they share the common feature that they are more or less like prescription lenses. With spuncast lenses it is a matter of fitting the patient from the stock of lens sizes and powers already produced.

Contact lens laboratories are small-scale enterprises. The expenditure on capital equipment required to start a laboratory is, in the view of Mr. File, between \$50,000 to \$100,000 with the range apparently a function of the scale of the laboratory; if one were willing to sacrifice quality of equipment, capital expenditures could be reduced to \$20,000 or \$30,000. The space required to house a laboratory is that of a good-sized room.

The scale of the Bausch & Lomb production of spun-cast lenses was much larger than that required for a laboratory producing lathe soft or hard lenses. However, unlike large contact lens laboratory firms such as P.C.L. or N & N, Bausch & Lomb relied on a single production facility rather than on a number of regional laboratories. The production facility formerly operated by Bausch & Lomb in Midland, Ontario may more accurately have been described as a factory than as a laboratory in that production was for stock rather than to order. While a laboratory may produce a small stock in anticipation of orders, the essence of a laboratory is that the work is undertaken only after a prescription has been received. From the viewpoint of considering the conditions of entry, potential entrants include existing ophthalmic product suppliers, laboratory employees as well as optometrists and opticians with experience as fitters.

Product differences in hard contact lenses are based on the quality of the workmanship, since there appears to be a small number of lens blank sources which are readily available to all laboratories. This is in contrast to the situation that exists in soft lens blanks where there are many more sources and possible differences in their material. There is an obvious difference between lathe soft lenses and those produced by the spuncast method. However, there is no information before the Commission on differences among lathe soft lenses produced from materials obtained from different sources. More specifically, there is no information on whether the ease of fitting a patient, the adjustment of the patient to the lenses, care for the lenses, or duplication of the lenses are affected by the material in use. Hence it is not known whether the market position of laboratories, apart from Bausch & Lomb, has been affected by access to preferred raw materials.

From time to time there are news releases regarding soft contact lenses which can be worn for considerable periods without being removed. Should these lenses prove safe and easy to fit and use, they can have a significant impact on the size and composition of the contact lens sales, much as did the introduction of soft contact lenses. In any event, the state of the art of contact lens production is changing to an extent that even a recent snapshot of the distribution of market shares is in danger of being dated.

The Distribution of Laboratory Contact Lens Sales

There were 18 firms that were identified as "contact lens suppliers" to the Commission. A questionnaire return was received from each firm showing its sales, divided by type of dispenser and location of dispenser. The distribution of sales among suppliers as obtained from the questionnaire returns is shown in Tables 14 to 17, which separate soft and hard contact lens sales.

In spite of the fact that contact lens laboratories are small-scale enterprises, the level of concentration in 1975 was high relative to other manufacturing industries. Nationwide, the three leading contact lens suppliers accounted for 74 per cent of soft lens sales and 71 per cent of hard lens sales with similar high ratios in every province.

Three of the smaller firms are vertically integrated laboratory-dispensers whose business is highly local. Morgan Optics, Ltd. is owned by the same interests as London Drug Optical in British Columbia and, apart from a few outside customers, its output goes to its affiliated outlet. The Sanger laboratory is exclusively devoted to supplying its several contact lens dispensing outlets in Toronto and area. Gormac is a small laboratory in Montreal that serves an affiliated dispensing outlet and several outside customers.

Of the other firms that returned questionnaires, AOCO does not operate a laboratory in Canada and it imports a limited amount of hard contact lenses from its U.S. parent to meet part of the needs of its dispensing outlets. Vilico sells a very small volume of contact lenses and this area of its business appears to be a sideline, or a service that is offered to meet the needs of some of its customers.

Many of the suppliers produce both soft and hard contact lenses. Bausch & Lomb and Union, two of the leading soft contact lens suppliers, are notable exceptions. P.C.L., with a share of national sales of 53 per cent, is the largest supplier of hard contact lenses. Although other companies were in existence in Canada prior to 1959 when P.C.L. was established, it was one of the early leaders in the field.

Moreover, it has played a very important part in the training of contact lens fitters, accounting in the view of Mr. Sanger, for about 90 per cent of their training. It is assumed by the Commission that much of the contribution was made indirectly through the Canadian Guild of Dispensing Opticians.

P.C.L., with eight laboratories in different parts of the country, holds the largest share of sales in nine of the provinces. The exception is Quebec, where Veracon is the leading supplier. The only other company which might be termed a national firm is N & N, which has four laboratories. During the period covered by the questionnaire it had three.

Bausch & Lomb was the leading seller of soft contact lenses. Its share of national sales was 42 per cent and it held the largest share of sales in seven of the provinces. At a national level, Bausch & Lomb is followed by N & N with 20 per cent of sales and Union with 12 per cent. The strong national position of N & N is reflected in most of the provinces, and particularly so in the three most westerly provinces. In considering that there are possible product differences resulting from the types of raw material used, the fact that Veracon buys its supplies from N & N suggests that the sales of N & N and Veracon be added. However, it should be noted that N & N has not granted Veracon an exclusive and N & N has sales in Quebec although it does not have a laboratory in that province.

Replacement is undoubtedly an important although unknown part of contact lens sales. This fact suggests that, because of the pioneer position of Bausch & Lomb, its overall market share was larger during the survey than was its share of new case demand.

Vertical integration was of much less consequence to the position of contact lens suppliers than was true for conventional lenses. Imperial affiliates accounted for 13.6 per cent of soft and hard contact lens purchases combined, and for 22.5 per cent of hard contact lenses. This is in contrast to 28.3 per cent of conventional lens purchases. AOCO dispensing outlets were a very minor source for contact lenses; their purchases amounted to less than one and one-half per cent of those made by all dispensers. (It is for

this reason that purchases by AOCO outlets are not shown separately in the tables.) Additionally, integrated laboratory-dispensers are a much less important factor in the contact lens field than they are in conventional lenses.

Imperial affiliates displayed a marked difference in the proportions of hard and soft lenses they purchased in comparison with other contact lens fitters. Excluding Imperial affiliates, hard contact lenses represented 28.3 per cent of contact lens purchases by all fitters and 28.5 per cent of purchases by opticians. The percentage for Imperial affiliates was 52.5 per cent. One possible explanation for this difference is that Imperial affiliates, for whatever reason, preferred much more than did other dispensers, to fit hard contact lenses. It is also possible that the relatively large amount of hard contact lens purchases by Imperial affiliates represented a large replacement demand, which would be the case if Imperial affiliates had accounted for a larger share of new sales in past years than they did in 1975.

Of hard contact lens purchases by Imperial affiliates, 94.4 per cent were from P.C.L. (a figure which is very similar to the percentage of conventional lens purchases from Imperial laboratories). This buying pattern was not carried over to soft contact lens purchases, where the percentage of purchases within the Imperial family of companies was only 19.1 per cent. Other fitters made 4.7 per cent of their soft contact lens purchases from P.C.L. The extent to which Imperial affiliates swung away from P.C.L. in their soft lens purchases highlights the importance of perceived differences in soft contact lenses.

There were imports of finished contact lenses of approximately* \$400,000.⁸ A part of this total is included in Tables 14 to 18 because it is known AOCO drew on its United States parent to meet part of the purchases by its dispensing outlets. Union also used United States sources to meet the demand for certain types of contact lenses. It is possible that other laboratories did the same. However, some

* Figures supplied by Statistics Canada were rounded to the closest \$100,000.

part of the imports represents purchases from United States laboratories by contact lens fitters which are an addition to the supply of lenses shown in Tables 14 and 15. There are several large United States laboratories that distribute their catalogues in Canada.

The Distribution of Contact Lens Dispensing Sales

As measured by contact lens purchases from suppliers in Tables 14 and 15, opticians dispensed 45.2 per cent of contact lenses, followed by optometrists with 38.3 per cent and ophthalmologists with 16.5 per cent. The value of purchases is probably an accurate reflection of the number of prescriptions filled by each group. However, to the extent that the prices charged by each type of dispenser are different, they are a less accurate representation of the distribution of the value of dispensing sales.

One of the features of contact lens dispensing is that fitters associated with suppliers were far less important than was the case in the dispensing of spectacles. This difference partly results from the participation of ophthalmologists in contact lens fitting. Other factors are present as well, as is evident when the share of purchases of Imperial affiliates is compared with that of other opticians. Nationwide Imperial affiliates made 30.3 per cent of opticians' contact lens purchases, which is well below their share of opticians' conventional lens purchases of 49.1 per cent. There were eight locations (Calgary, Edmonton, Regina, Guelph, London, St. Catharines, Thunder Bay and St. John's) where Imperial's share of opticians' purchases exceeded 50 per cent.

One of the important factors in the success of spectacle dispensing outlets is location. Where they are in or close to a medical building clients are attracted on leaving the doctor's office, or in heavy traffic areas such as shopping centres, a good selection of frames can be used to draw the attention of clients. The experience of Imperial indicates that although opticians' outlets may be well located to sell spectacles this has not assured equal success in attracting contact lens customers.

Pricing

Contact lens laboratories generally quote prices in two ways according to Mr. File:

. . . the practitioner can purchase the lenses on a per-case basis for an individual patient where we supply the lenses, one pair, two pairs or any number, until they get that patient fitted properly, and then the second way they buy the individual lenses which we fill to their specifications and if they don't fit then they have to buy other lenses if the first ones don't fit properly or they want to make a change in them.⁹

He estimated that 70 to 80 per cent of the orders received by Dominion were on a per-case basis, without any noticeable differences between soft and hard lens orders:

. . . It depends on the practitioner. Some practitioners order everything on per case and other practitioners order everything per lens.¹⁰

With few exceptions, prices are not quoted according to the value of the prescription, and where they are so quoted, the divisions used are very broad relative to the ranges used for conventional lenses.*

The Commission's survey showed little variation in the list prices of contact lens laboratories. Some laboratories offer various plans or service contracts which have not been included because they are not directly comparable to prices quoted on a per-lens or a per-case basis. Set out below are the prices of a number of laboratories which quote on a per-lens or a per-case basis.

* Veracon's price for its hard lens is the same for plus or minus eight diopters. There is a similar range for its soft lens price. However, the price for plus power lenses is higher than it is for negative lenses.

LABORATORY CONTACT LENS PRICES, 1975^a

Company		Hard Lenses	Soft Lenses
		\$	\$
Bausch & Lomb	Per case	(not sold)	-
	Per lens		32.50
N & N	Per case	50.00	65.00 ^b
	Per lens	10.00	20.00 ^b
Plastic Contact Lens	Per case	60.00 ^c	65.00
	Per lens	13.50	25.00
Veracon	Per case	^d	65.00 ^e
	Per lens	13.00	20.00 ^e
Dominion Contact Lens	Per case	50.00	65.00
	Per lens	12.00	20.00
Kelvin Contact Lens	Per case	50.00	-
	Per lens	12.00	20.00
Opti-Contact	Per case	^d	^d
	Per lens	12.00	22.00

SOURCE: Price lists of the companies.

^a Virtually no information on volume or other discounts was made available to the Commission. Evidence from Mr. Casson on the Plastic Contact Lens Company indicates that this company grants volume discounts. It can be surmised from experience in relation to the pricing of conventional lenses that other companies were granting such discounts.

^b N & N also offered another soft lens that sold for \$25.00 per lens and \$70.00 per case.

^c The prices shown in the body of the table are referred to in the price catalogue as being for "Type A Plastic". The respective prices for "Aseptoplast" were \$63.50 and \$15.25.

^d Various service plans available.

^e Prices apply to minus lenses up to seven diopters.

The per-lens price of hard contact lenses was \$12 in four laboratories and \$13 and \$10 in Veracon and N & N, respectively. On a per-case basis there was no variation among companies. The general level of prices was not much different than it was at the end of the Second World War.

Apart from Bausch & Lomb, the only price differences in soft contact lenses were a higher per-lens price charged by P.C.L. and Opti-Contact. On a per-case basis, there was a uniform price of \$65. Bausch & Lomb was selling on a different basis from the other companies since it was selling from stock rather than filling individual prescriptions. The Bausch & Lomb price in relation to the prices of other companies depends on how successfully, compared to other lenses, the Bausch & Lomb lenses could be fitted. In any event, the cost of Bausch & Lomb replacement lenses was much higher.

From the limited information available, it appears that very substantial volume discounts are offered, a practice that is also prevalent in the sale of conventional lenses. Mr. Alan Tytel described the effect of volume purchasing on contact lens prices:

Hal Brown [a Toronto optician's outlet that engages in considerable advertising] is primarily a contact lens store where they are selling a pair of contact lenses at a drastically reduced price and that is based on volume, the traffic that has developed over the years. The other stores don't have that same volume. . . . One store gets charged one price for them and the others get charged another price for them by the manufacturer, based on their volumes and I would say that the spread would be approximately 30 to 40 per cent lower to Hal Brown.¹¹

Describing P.C.L.'s pricing Mr. Casson said that up to 10 pairs a month, the discount is \$40, but at 10 pairs and over it is \$50. Given the extent to which contact lens fitting is a specialized activity, it is likely that most contact lenses are bought under some form of volume discount. What is not known is the extent to which the discounts follow a fixed schedule and to what extent they vary with circumstances.

There is a much larger service component in the dispensing of contact lenses than there is in the dispensing of spectacles. Although a survey of the prices charged by contact lens fitters was not undertaken, there is considerable evidence that there is wide variation in prices; not only among different types of contact lens fitters (ophthalmologists, optometrists, opticians) but also among fitters in the same profession. Yet it may be that this variation is less than is the case in spectacles prices, because from the point of view of the consumer there is much more apparent homogeneity in contact lenses. The consumer does not have to contend with differences in frames or lens powers in comparing prices paid by others.

There has been very little movement in contact lens prices in Toronto and area* over a considerable period. Two factors were mentioned by Mr. Sanger in explanation: competition and the increased volume enjoyed by fitters.

Mr. Abramson was of the opinion that prices were considerably higher in Alberta than in British Columbia. He attributed this to a limitation on advertising in Alberta. On the other hand, it has been argued that lower prices may simply represent inferior services which may be a risk to the consumer.

The assurance of adequate consumer protection is one of the important challenges facing the industry, a challenge which is no more evident than in the dispensing of contact lenses. Adequate consumer protection is necessary with or without price advertising, but once such protection is available market forces could be relied on with increased confidence.

* Although Mr. Sanger did not refer to any specific location, he would be most familiar with Toronto and neighbouring cities.

CHAPTER XI

CONCLUSIONS AND RECOMMENDATIONS

The evidence considered in this inquiry has encompassed a wide range, from professional ethics to concentration of ownership and control. The conclusions and recommendations derived therefrom fall into two main categories. The first relates to the industry in general and the professional or occupational groups. The second covers the market position and conduct of individual firms.

A common feature of the first set of conclusions and recommendations is the limited amount of information readily available to consumers. This deficiency can be remedied to some extent, but the technical nature of the product means that most consumers will continue to be relatively uninformed buyers with respect to product and service quality. A related consideration is that ophthalmic products are health-care items prescribed and dispensed by those who are in a position of trust. Furthermore, at present little information is available to consumers to facilitate their knowledge of prices. This adds to the dependence of the consumer on those who prescribe and dispense ophthalmic products.

Steering of Patients

It is agreed by all sectors of the ophthalmic products industry that steering of patients for commercial gain is a reprehensible practice. The evidence is that Imperial, the one firm for which there is evidence that it engaged in the practice, discontinued providing monetary incentives to ophthalmologists several years ago.

An incentive for steering will also exist where the optometrist or ophthalmologist has a financial interest in a dispensing outlet or is related to the retail outlet

through a contract or understanding which explicitly or implicitly calls for cross-referrals. For example, optometrists in Alberta are permitted to own a dispensing outlet. It would be surprising if cross-referrals in such situations did not occur. A similar situation is created where optometrists have understandings with a dispensing outlet for cross-referrals. The key question from the viewpoint of the consumer in these arrangements is whether it is made clear, or is obvious from the context, that the ownership connection or cross-referral arrangement exists. The same could be said to be true of situations where ophthalmologists were receiving a benefit from referrals unknown to the consumer. If the consumer clearly understands the reason for the referral, then the erroneous impression that the referral is based on a professional opinion of good quality, and perhaps even favourable prices, may not arise. Consumers are not likely to be so misled where the optometrist is clearly associated with the dispensing outlet, as occurs when optometrists have offices contiguous to those of dispensing outlets. Consumers may find such a situation convenient in much the same way that many do when they go to an optometrist who fulfils both the diagnostic and dispensing roles.

Other situations where an incentive for steering exists are those in which the building with an optician's outlet is owned by the ophthalmologist or optometrist. The incentive is most immediate and obvious where a percentage-of-sales rental lease is in force. There is nothing objectionable about such an ownership relationship as long as no referrals are made.

The Commission heard several witnesses *in camera* on the sale of the dispensing part of optometric practices. The purchasers were large integrated companies which operated or opened dispensing outlets in close proximity to the optometrists' offices. There is a serious question in most instances as to exactly what the optometrist has to sell beyond the stock of ophthalmic products and fixtures. The suspicion may frequently arise that the optometrist has agreed to steer patients to the purchaser. However, steering is not necessary for the purchaser to pay an optometrist to discontinue dispensing: the purchaser can form an estimate of the value of additional business that will accrue to its outlet based on its proximity to the optometrist and the

existence of other outlets in the area. Additionally, the optometrist may be located in a good commercial location such as a department store, shopping centre, or on a busy street. This factor plus the identification of the outlet as a source of ophthalmic products could be of some value to a purchaser. Where such calculations form the basis of the purchase, the price should be a lump-sum and no further financial relationships should exist between the optometrist and the purchaser, such as tenant-landlord, or the gearing of future payments to the optometrist to the revenue of the dispensing outlet.

Steering may be done verbally ('Take this prescription downstairs or across the hall.') or through the use of prescription pads bearing the name and address of a dispensing outlet. The use of such prescription pads by an ophthalmologist in Edmonton was noted in evidence. It is important to stress that the favouring of a dispensing outlet in this way constitutes steering even if the professional or the receptionist does not receive any material reward; it is a form of marketing best avoided by opticians and professionals.

Steering must be distinguished from referrals based on the professional opinion of ophthalmologists that certain opticians are better qualified than others. The overall impression is that ophthalmologists generally do not make referrals. It is assumed that this is in keeping with the fact that most prescriptions do not require specific dispensing skills or particular frames. Nevertheless, ophthalmologists do consider that certain cases or prescriptions are best dealt with by particular opticians, in keeping with interest and skill differences among dispensers. One source of difference among dispensing outlets is the quality and style of frames carried. This could easily be a consideration for children's spectacles, whereas fitting skills are of prime concern for cataract patients.

Related to the question of steering is the availability of the prescription to a consumer from an optometrist who does his own dispensing or from one associated with a dispensing optician. Although optometrists who do their own dispensing probably regard the dispensing function as part of their overall treatment, this viewpoint may not be shared

by their client who, for any of a number of possible reasons, prefers to have the prescription filled elsewhere. While the great majority of consumers who go to optometrists do so at least partly because they perform both a diagnostic and dispensing role, it cannot be assumed that this is invariably the case. Evidence was heard in Edmonton to the effect that optometrists in Alberta had been imposing a specific charge on clients who chose to carry away their prescription. This approach was apparently based on a misunderstanding of the suggested fee schedule. In any event, it should be recognized that any reluctance or pressure on the part of the optometrist to surrender the prescription obviously means that the consumer is not allowed to make his own choice of dispenser and is being subjected to a form of steering.

It should be made clear to the consumer that the prescription may be filled elsewhere.

Minimum National Standards

The quality of ophthalmic appliances is not a matter of pressing concern. Although the quality of work from laboratories appears to fluctuate with the competence of certain key personnel, there is little evidence that poor work from the laboratory has been getting through to the consumer. However, it could have, without causing sufficient discomfort to result in complaints. Most of the evidence on poor laboratory work reaching the consumer was under government contracts when the ophthalmic appliances were not fitted and assessed by a dispenser. Recent government contracts provide fees specifically for this purpose.

Steps to ensure high quality would be likely to improve overall market performance. Greater confidence in the quality of ophthalmic appliances should have the effect of making consumers more sensitive to price differences. It would also be hoped that evidence of uniformly high quality would lead ophthalmologists and optometrists to develop confidence in most dispensers for ordinary prescriptions.

There are two essential elements to the question of standards. The first is related to the formulation of standards and the second to their enforcement.

Uniform minimum standards should preferably be applied throughout the country. Laboratories often sell in a number of provinces even though they are patronized primarily by dispensers in the same region. Reaching out to more distant customers should be encouraged as the effect is to increase the number of suppliers available to dispensers in a particular city or area. The most convenient way of establishing minimum national standards is through the setting of regulations for medical devices under the Food and Drugs Act.

Although a good case can be made for the establishment of minimum national standards, quality problems have not been shown to be of sufficient concern to justify an expensive enforcement effort. Moreover, it is the Commission's view that responsibility for quality must be placed with dispensers. It is their function to ensure that the prescription values and fitting measurements are embodied in the ophthalmic appliance. It should be the responsibility of professional and occupational groups to ensure that knowledge of the standards is acquired and applied by all members. Apart from Newfoundland and British Columbia, where opticians are not covered by legislation, policing as well as education are best left with provincial optometrists' and opticians' organizations. From the viewpoint of the public the *raison d'être* of such bodies is precisely to ensure high quality services by their members. The existence of minimum national standards should facilitate this task.

An important point to consider is the protection available to a consumer, under the foregoing recommendations, in the event that there is a concern about the ophthalmic appliance. The consumer could always return to the dispenser and request that the appliance be checked to ensure its conformity with the prescription and fitting measurements. However, a consumer seeking to evaluate a dispenser's work could take the matter further by requesting a copy of the prescription and fitting measurements which should be made available on demand. If a check of the ophthalmic appliance reveals that it is below standards this would be a cause for a complaint to the relevant disciplining body or a consumer bureau. This possible approach is not meant to suggest that consumers would frequently feel the need for such a course

of action. The intention is to demonstrate that the existence of written standards opens up avenues to policing which are absent when standards are only a matter of subjective evaluation.

Dispensing of Contact Lenses

Contact lenses and conventional lenses are not always perfect substitutes. The most important consideration is that not everyone is able to tolerate or deal with contact lenses. Therefore, the decision as to whether a person ought to be fitted for contact lenses should not be solely left with the person concerned or with a dispenser untrained to make such a determination. Several provinces require that an optician obtain the approval of a medical doctor or an optometrist before he may dispense contact lenses. Contact lens fitters in other provinces probably tend to follow the same procedure. However, laws are not designed for the scrupulous and the public in all regions would be better protected if there were a legislative requirement in all provinces that contact lenses may not be fitted unless the prescription explicitly calls or allows for contact lenses.

In addition, a strong case can be made for ensuring, through some form of licensure, that contact lens fitters are adequately trained. Not only are specific skills required, but there can be serious consequences from badly fitted lenses. It would be unfortunate, however, if licensure was accompanied by marketing restrictions, such as controls over advertising, which dampened competition.

Advertising

Consumers' information on prices is deficient just as is their information on quality. Although consumers could remedy deficient price information by comparative shopping, they apparently rarely seek information in this way. Their failure to do so may be accounted for by their having judged that the potential cost savings do not justify the time and bother entailed in securing the information, or by their realization that they are unable to evaluate the appliance.

Advertising, the vehicle used to convey price information for most commodities, has been used in relation to ophthalmic goods to a limited extent only. The only provinces in which there has been price advertising on a continuing basis are British Columbia and Ontario. Price advertising of contact lenses by opticians is apparently quite common, but until recently only a single firm in each of the two provinces had built its marketing of spectacles around price advertising.

The absence of price advertising in many provinces can be directly traced to provincial legislation which forbids it, or places advertising under the control of the governing bodies of optometrists or opticians. However, the fact that price advertising has not been used in Newfoundland and New Brunswick or has been used unsuccessfully in Saskatchewan, provinces which did not have legislation governing opticians, indicates that legislative control is only one factor. A deeper cause can be traced to opposition by optometrists to all advertising and by opticians to price advertising primarily. Moreover, not only is there opposition by many opticians but also by large companies such as AOCO and Imperial. Opposition by Imperial is of particular significance given the important input it provided to legislation in some of the provinces. An additional reason which is of some consequence is that without adequate consumer information, advertising may appeal to a limited number of consumers and thus is not always a successful marketing approach.

Because of differences in prescriptions, extras and the wide variety of frames there may be difficulties in accurately conveying price information on spectacles to consumers. Similar problems are not encountered in contact lenses. Various techniques have been used to advertise accurate price information to consumers and it is probably safe to assume still other ways can be devised to accomplish the same end.

Several arguments have been raised against price advertising. Two arguments are specifically related to the functioning of the marketplace as such; others, concerned with matters such as whether price advertising is unprofessional or demeaning in some way, are not considered here. One of the fears that has been expressed is that widespread

price advertising would lead to a deterioration of quality. The presumed chain of causation is that price advertising makes consumers more price conscious, intensifies price competition among dispensing outlets, and results in a degradation of quality standards. Another concern is that price advertising opens the way to "bait and switch" selling.

Section 37(2) of the Combines Investigation Act prohibits a firm from advertising a product at bargain prices if an adequate supply of the product is not made available to meet demand. This section provides some protection to consumers against "bait and switch" selling, namely where it is accompanied by insufficient supplies. However, firms are still free to employ sales techniques to convince the consumer that a higher-priced product than the one advertised (and available) would better suit the consumer. It is difficult to see how legislative protection can be provided against such tactics which, it should be noted, can be employed regardless of whether a consumer was attracted by means of a price advertisement.

The effect of price advertising on quality can only be guessed at. Fortunately, any negative relationship that may exist can be broken by the establishment of enforceable national standards.

It is not in the public interest to disallow price advertising of ophthalmic products and associated services to the consumer. The goal should be an informed consumer who knows the choices open to him and can relate them back to his personal economic circumstances. Fears expressed regarding the effects of price advertising do not constitute sufficient grounds for limiting the range of types of outlets available to the consumer. High-volume, low-markup dispensing outlets are unlikely to develop in the absence of the opportunity to advertise their prices. Although the development of national standards should provide safeguards against the possible deterioration of quality resulting from price advertising, it would be unfortunate if granting permission to advertise in provinces where it is now disallowed by legislation or regulation were to be made contingent on the development of national standards.

Reciprocity in Licensing Opticians

With the possible exception of Quebec the training requirements for opticians are very similar across the country. Even in British Columbia and Newfoundland individuals enrolled in opticians' courses are likely to be using similar materials and to be graded on the same standards as opticians in provinces which set entrance requirements into opticianry. Under these circumstances any barriers to the movement of opticians from one province to another appear to be unnecessary restrictions creating protection of local opticians. A particularly suspect restriction is the requirement in some provinces that an incoming optician must serve the equivalent of a year's apprenticeship. In contrast, the public interest in this matter would be best served by the greatest possible degree of mobility of opticians, which can be achieved through reciprocity agreements among the provinces as respects legislation governing the licensing of qualified opticians.

Composition of Opticians' Boards

As previously stated in Chapter IV the executives of opticians' governing bodies in Alberta, in Ontario and Nova Scotia were connected with Imperial. While the evidence did not support the impression among independent opticians in Ontario that control of the Board was used by Imperial to make entry difficult for opticians not connected with Imperial, the suspicion of abuse was not surprising. Since the Board had been appointed, the Government of Ontario could replace it when the situation was exposed. An elected Board might not have been so easy to replace. Opticians associated with Imperial represent a powerful voice at annual meetings in all provinces except Quebec.

It is in the interest of the consumer that at least some members of licensing boards be appointed to represent their interests.

Market Power Considerations

Considerable market power on the part of Imperial appears at several levels of the ophthalmic products industry. In dispensing, Imperial subsidiaries or affiliates made in excess of 50 per cent of conventional lens purchases in 21 out of 38 population centres throughout the country, and in 21 out of 32 population centres excluding the Province of Quebec, where it does not have a strong market position. In four of the smaller population centres, market shares, as indicated by lens purchases, were in excess of 85 per cent.

There is no underlying economic reason for large market shares in dispensing. Entry is fairly easy and there is room for numerous outlets even in cities of moderate size. Of course these factors do not necessarily prevent the development of chains of dispensing outlets which gain large market shares.

Relatively easy entry into the industry does not, unfortunately, remove the threat to competition posed by high levels of concentration. The importance of location as a determinant in the success of a dispensing outlet along with a limited number of desirable sites means that entry is not likely to be an effective constraint on behaviour of existing firms. The establishment of high markups without an effectively functioning market is likely to result in an excessive number of outlets, each serving far fewer customers than it is able to. Better consumer information and assured quality standards would weaken this tendency and the impact of high concentration levels. However, the extent to which this occurs will depend on the size and the nature of the market. Experience to date suggests that a large market such as is found in Toronto is more likely to generate competitive pressures than are small population centres where there is less opportunity for the development of a variety of outlets with different marketing approaches.

Imperial's market position at the dispensing level is obtained primarily through acquisition, or by helping to form new businesses in which it holds at least a 50 per cent ownership share. In some smaller centres, particularly in the Atlantic Provinces, a significant portion of sales are

accounted for by wholly-owned dispensing outlets operated out of Imperial laboratories.

Although Imperial does not hold a controlling interest in many of the companies, there can be no question that a 50 per cent interest gives it a strong voice in marketing and purchasing policies. For instance, in keeping with Imperial's opposition to price advertising none of its subsidiaries or affiliates initiate price advertising. While individual affiliates must be expected to lend their own flavour to an operation, Imperial is in a position to meld particular approaches with those of other affiliates and overall corporate strategy. Sales by affiliates and subsidiaries must be regarded as market shares held by Imperial.

There are a number of population centres where Imperial's share of opticians' sales considered in isolation is too large to be in the public interest. While no specific percentage share provides a critical watershed, market shares of the order of 70 and 80 per cent resulting from an association with several chains and individual outlets fall well within critically high concentration levels. Cities where these market-share levels were achieved were Victoria (67.7%), Edmonton (75.7%), Saskatoon (70.8%), Guelph (80.0%), Kingston (88.3%), Peterborough (76.1%), Thunder Bay (95.0%), Windsor (71.4%), Saint John (86.7%) and in Metropolitan St. Catharines* (85.2%).

Imperial's share of total dispensing by opticians and optometrists is in all cases lower, and in most considerably so. However, except where the style of an optometrist's practice is such that location, decor and frame display permit him to compete for prescriptions other than those written by himself, the optometrist operates in a different market than an optician. Moreover, even where his style of operation is similar to that of an optician, he is usually subject to more stringent advertising controls. In the market share data compiled by the Commission, in all cases where it was known that optometrists were in commercial locations such as department stores, these dispensing outlets were grouped

* Includes Niagara Falls, Niagara-on-the-Lake, Pelham, Port Colborne, Thorold, Wainfleet Township and Welland.

with opticians. Some additional optometric practices might well have been included with opticians if more information had been available. These are found mainly in Quebec and in the Atlantic Provinces and would affect only Saint John of the population centres listed above. Moreover, even when dispensing purchases by opticians and optometrists are combined in that city, Imperial's share was approximately 77 per cent.

The effects of Imperial's market position in dispensing cannot be fully evaluated at the dispensing level, since its laboratory business is much dependent on purchases by its dispensing outlets. Affiliates and subsidiaries purchased almost 96 per cent of their lens requirements from Imperial laboratories. The assured market provided by its own dispensing outlets has permitted Imperial to establish and maintain a large number of branches. Thus convenient location, which is another factor in the success of Imperial's laboratory business, is not independent of its retail operation.

Imperial and its affiliates and subsidiaries accounted for over 50 per cent of laboratory lens sales in six provinces. It also held the largest single share in three others. As is the case in dispensing outlets, the high levels of concentration cannot be traced to economies of scale or entry barriers other than those caused by vertical integration. Imperial's share of total sales of lenses by all laboratories and its share of the lenses purchased by its own dispensing outlets for each province were:

Province	Sales by Laboratories	Purchases by Dispensing Outlets
	%	%
British Columbia	68.7	34.0
Alberta	71.9	35.4
Saskatchewan	65.3	31.4
Manitoba	40.5	13.6
Ontario	55.1	38.5
Quebec	22.1	5.0
New Brunswick	54.8	32.3
Nova Scotia	39.0	28.9
Prince Edward Island	70.5	23.5
Newfoundland	45.5	37.3

Source: Tables 5 and 6.

In spite of an indication of significant economies of scale in large mail-order laboratories in the United States, the scales attained by the larger Canadian laboratories do not appear to have given them an important cost advantage over other laboratories. Whatever cost disadvantages smaller laboratories may experience are not sufficient to prevent them from undercutting the prices of the national and large regional laboratories.

However, the question of scale cannot be ignored. There is a limit to the number of firms any market can support, and the volume available from dispensing outlets which are not tied through vertical integration is critical to the number of laboratory firms in any area. For instance, the number of laboratory firms in Montreal can be traced to a large free market. In contrast, Toronto with a bigger total market than Montreal's (\$6,176,629 versus \$4,546,053) offered a much smaller prospective market to a would-be entrant (\$2,983,222 compared to \$4,145,220) after allowance is made for laboratory purchases by Imperial and AOCO outlets.

Although vertical integration has a foreclosure effect it cannot be evaluated solely in those terms. Vertical integration as such is not a competition policy problem; policy concern is warranted only when there is high concentration or other market imperfections.

Experience in Quebec shows that moderate levels of concentration and the presence of a number of small laboratories can provide a climate in which there is price competition among laboratories. Although the matter was not presented in detail, the same appears to be true for frames. A comparison of prices in Quebec with those in other provinces indicates that there is the potential for considerably more competition in the larger markets. While much-reduced levels of concentration are not possible in small market areas, competitive pressures might be introduced through mail-order competition. This has occurred to a limited extent, with some dispensers in Newfoundland and in the Western Provinces dealing with laboratories in Quebec.

Imperial's position at the wholesale and retail levels provides it with considerable power as a buyer which has enabled it to obtain important exclusive distributorships.

As in the case of vertical integration, it is doing what many other firms do or would like to do. Also, as in the case of vertical integration, exclusive distributorships are often based on sound economic reasons. Yet both practices can harm competition: exclusive distributorships by foreclosing supplies; vertical integration by foreclosing a large share of dispensing sales.

In general a problem for competing laboratories may develop when the product for which Imperial obtained an exclusive distributorship is highly differentiated. Where there have been a number of manufacturers producing similar products, distributing firms other than Imperial have been able to obtain exclusive distributorships because competing manufacturers have been reluctant to allow a single firm to represent them all.

Although Imperial has had a policy of making products for which it held exclusive distributorships available to competing laboratories, it appears that they have been reluctant because of price or other considerations to obtain their supplies from Imperial and have therefore found other sources outside of Canada. However, with regard to the Varilux 2 lens, Imperial has been the only laboratory firm outside of Quebec which has had access to supplies from the manufacturer. There was no evidence on whether supplies were indirectly obtainable. After the conclusion of the Hearings AOCO launched a competing lens, introducing an alternative source of supply that should weaken the impact of Imperial's exclusive arrangement on competing laboratories.

It can be assumed that the success of Imperial in obtaining exclusive distributorships would be affected by measures to reduce its market power in dispensing and laboratories as discussed below. Additional remedies do not appear to be necessary; for the most part Imperial's exclusive distributorships were a nuisance rather than a serious hardship to competitors.

It should as a matter of record be noted that the conditions in Section 31.2 of the Combines Investigation Act do not encompass the few circumstances described in evidence on Imperial's refusal to sell an ophthalmic appliance on

which it held an exclusive distributorship. However, any future denial of a product of considerable importance to a competitor, who could not find alternative sources of supply, could very well constitute a situation covered by the section.

One of the arguments justifying Imperial's large shares of dispensing and laboratory sales is that Imperial's laboratories are the outlet for almost all of the output of its lens and manufacturing operations. A reduction in Imperial's laboratory sales would therefore reduce its manufacturing output. The closing of the lens plants of AOCO and Bausch & Lomb highlight the precariousness of ophthalmic products manufacturing in Canada. There are several points to be considered in discussing this matter.

Is vertical integration an effective non-tariff barrier? Or alternatively, has Imperial produced and will it in future produce what it is cheaper to buy? Both *a priori* reasoning and Imperial's behaviour strongly indicate that, in the long run, a vertically-integrated firm will satisfy its requirements by buying if the product can be purchased at a price below its full cost, including a return to capital. If Canadian lens manufacturing is not competitive with that of other countries it can be anticipated that Imperial will eventually close its manufacturing facilities. Vertical integration does provide a cushion against imports or any other purchases from outside the organization as long as the price at which supplies can be purchased does not fall below the variable costs of production. But a non-integrated Canadian producer is likely to meet foreign competition in the same way - by meeting lower prices as long as variable costs are covered.

Another question to be considered is whether domestic laboratories will purchase imported products if they are available from Imperial at equivalent or somewhat lower prices; it is probably safe to assume that they would not jeopardize their competitive position by paying a significant premium for imported supplies. The decline in the Canadian dollar may have put this question to the test. Unfortunately, it is a matter on which the Commission does not have specific information. It would be unfortunate if steps to improve competition in dispensing and ophthalmic laboratories resulted

in reductions in Canadian manufacturing in spite of the availability of competitively priced lens supplies in Canada.

One of the proposals made to the Commission concerned tariff reduction. This is not considered to be an appropriate remedy. Because of the low value of the tariff and the abundance of foreign supply sources the supply of lenses and frames is already highly competitive. While tariff cuts or elimination would reduce prices, they would not serve as a remedy to the market power situations in dispensing. They might produce some effects in wholesaling, but the impact would be general, affecting not just highly-concentrated markets but also other areas and small independent firms.

Imperial holds excessively high market shares at both the dispensing and laboratory levels. There are four provinces in which Imperial's share of laboratory lens sales exceeded 60 per cent: British Columbia (68.7%), Alberta (71.9%), Saskatchewan (65.3%) and Prince Edward Island (70.5%). Equally important, it held 55.1% of sales in Ontario, a province with sufficient volume in most areas to allow for a highly competitive environment.

Fairly high levels of concentration among both soft and hard contact lens laboratories were found to exist. However, this concentration does not appear to pose a serious problem. Soft and hard contact lenses are fairly close substitutes, with the more rapid growth in soft lenses in spite of their higher cost showing that they are the preferred product. The industry has been undergoing rapid changes in product offerings and further changes can be anticipated. Under these conditions high market shares are likely to be temporary or earned through sustained technological superiority. The indications are that market shares are likely to continue to undergo changes, as they did from 1973 to 1975.

As noted, there are a number of population centres where Imperial's market share is too high to be considered in the public interest. However, the question of market shares at the dispensing level is best considered in conjunction with Imperial's position in ophthalmic laboratories. Relief at the dispensing level can be sought for individual

population centres, but if a significant effect on concentration in laboratories is to be achieved a wider geographic area must be taken into account. Moreover, Imperial's position in retailing in many population centres rests to a considerable extent on chains of dispensing outlets which operate regionally.

A remedy which could be sought is a reduction or elimination of the vertical ties between laboratories and the dispensing end. Any enforced dissolution of ownership ties would be highly disruptive and would not solve the problem. The owners of the dispensing end could, over time, re-establish the position held by Imperial in the laboratory business. To prevent this, entry into the laboratory business by the dispensing company or companies would have to be disallowed. This would constitute a denial of the right to integrate vertically to a large segment of the industry while the rest of the industry was permitted to do so.

The public interest in competition in the sale of ophthalmic products would best be served by steps to reduce concentration at both the dispensing and laboratory levels.

An alternative to complete vertical disintegration is the elimination of the 85 per cent rule included in agreements between Imperial and its partners in dispensing. However, this step could not be expected to produce a significant change in the buying pattern of Imperial outlets. The reasons for this conclusion are as follows: all outlets which are managed (Eaton's, People's) or clearly controlled (those outlets in which Standard holds more than 50 per cent ownership) can be expected to continue to buy as much as possible from Imperial. The outcome would hinge on those outlets in which Imperial has 50 per cent ownership. There are some Imperial partners who pursue an independent course now. Presumably their financial and market position is such that they can act in an independent fashion. The buying patterns of these outlets are also not likely to be affected by the elimination of the purchasing requirement represented by the 85 per cent rule. What would happen with the rest? Pressure could still be brought to bear on these outlets to

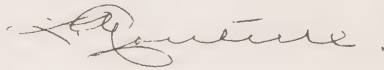
maintain a high percentage of purchases from Imperial laboratories even though it would be somewhat more difficult in the absence of a specific target. While abandonment of the purchase requirements should not be expected to yield a significant reduction in foreclosure of the laboratory business, it would at least partially eliminate a coercive element in Imperial's dealings with its dispensing partners.

Mergers have been a far less important source of Imperial's position in laboratories than they have in dispensing. However, there is one particular merger which has added to already high concentration levels. Imperial's ownership of Hudson has eliminated the independence of the only laboratory in British Columbia and Alberta of a sufficient size to be a serious competitor to Imperial. Increased laboratory competition in these provinces would be served by the sale of Hudson Optical by Imperial.

There are always two means of reducing concentration; one is to place restrictions on growth and the other is dissolution. Any limitation on growth obviously affects a firm's dynamism, but under the circumstances a limitation on growth through merger or associated techniques is reasonable. It is doubtful that this approach by itself would have a significant impact, even over a considerable period. Imperial is now a partner in numerous companies many of which have expanded considerably in the past and there is no reason to believe that they will not continue to do so. It would be totally inappropriate to place any restrictions on their future growth. However, in the case of Imperial an appropriate means of limiting growth would be through the prevention of future mergers or arrangements entered into for the purpose of opening new outlets.

A significant impact on concentration at the dispensing and laboratory levels can be anticipated only through the sale of several important chains. These chains would preferably meet certain conditions: they would obviously have to be viable, but it would also be useful in some areas if one of the chains operated on a low-margin basis. Another independent firm at the low-price end of the


price spectrum could generate lower prices and higher turn-over policies in other firms. The sale by Imperial of several dispensing chains in Western Canada and in Ontario would result in increased competition.



Acting Chairman



Member



Member

Ottawa

December 29, 1978

NOTES

CHAPTER I

1. Margaret Dowaliby, *Practical Aspects of Ophthalmic Optics*, The Professional Press, Inc., Chicago, Illinois, 1975, p. 6.
2. Dr. Harold A. Stein and Dr. Bernard J. Slatt, *The Ophthalmic Assistant*, Saint Louis, The C. V. Mosby Company, 1968, p. 152.
3. Margaret Dowaliby, *op cit.*, p. 86.
4. *Ibid.*
5. In 1961, 1966 and 1974 the figure (based on Statistics Canada's estimated population) stood at 32.8 per cent. (*Canada Year Book*, 1975, Table 4.14.)
6. United States Department of Commerce, Bureau of the Census, 1972 Census of Manufacturers, Industry Series MC72(2)-38B, *Medical Instruments; Ophthalmic Goods; Photographic Equipment; Clocks, Watches, and Watchcases*, Table 6A (November 1974).
7. Ralph Drew, *Professional Ophthalmic Dispensing*, The Professional Press, Inc., Chicago, Illinois, 1970, p. 176.
8. *Ibid.*, p. 179.
9. *Ibid.*, p. 172.
10. Margaret Dowaliby, *op cit.*, p. 130.
11. *Ibid.*, pp. 131-35.
12. Department of National Health and Welfare, "Focus on Eye Safety".

CHAPTER II

1. Description based on a Form 10-K Annual Report of Warner-Lambert Company to the Securities and Exchange Commission, Washington, D.C., for the fiscal year ended December 31, 1975.

2. Transcript, p. 8445. In the 1948 Report of the ~~Combines~~ Commissioner, patents were claimed to be a key factor in the strong market position of AOCO in frame sales.
3. Description based on a Form 10-K Annual Report of Bausch & Lomb Incorporated to the Securities and Exchange Commission, Washington, D.C., for the fiscal year ended December 31, 1975.

CHAPTER IV

1. Transcript, p. 1347.

CHAPTER V

1. Green Book, p. 37 and p. 39.
2. Exhibit A-2 and the update of that document by Mr. H. W. Iwasaki, Assistant Director, Research and Interpretation, External Trade Division, Statistics Canada.
3. Statistics Canada, Catalogue 65-202, *Exports - Merchandise Trade*, 1973-75.
4. *Toronto Globe and Mail*, September 30, 1976, October 2, 1976 and February 11, 1977, and *Montreal Gazette*, February 12, 1977.
5. United States Department of Commerce, Bureau of the Census, 1972 Census of Manufacturers, Industry Series MC72(2)-38B, *Medical Instruments; Ophthalmic Goods; Photographic Equipment; Clocks, Watches, and Watchcases*, Table 6A (November 1974).
6. Exhibit A-2.
7. Cities and towns classified by Statistics Canada as part of a metropolitan area or census agglomeration have been treated as part of a single location. This is consistent with the approach followed in measuring dispensers' market shares in Tables 6 and 7.

8. A comparison of lens sales in Quebec with sales in other provinces indicates that the Quebec total is smaller than one would expect from population figures. Usable returns were received from all laboratories. Only one return - that from a frame and stock lens wholesaler - had to be discarded, because of an inadequate breakdown of lens and frame sales. This firm's volume of lens sales can explain but a small part of the apparent shortfall in lens sales. There are several factors that may, in combination, provide an explanation. Because the Statistics Canada delineation of market share figures was followed in constructing the market share tables, the Hull-Gatineau-Aylmer area was included with Ottawa, and subsequently in the Ontario totals. A comparison of Quebec and Ontario in Tables 6 and 7 shows that a small part of the discrepancy is accounted for by the fact that dispensers in Quebec tend more than elsewhere to buy stock and uncut lenses. Additionally, it is possible that Quebec dispensers import a greater relative volume of lenses than do those in other provinces. Finally, prices may have been lower in Quebec, a topic which is discussed in Chapter VIII.
9. Transcript, pp. 5576-77.
10. Since in almost all cases laboratories did not report the physical volumes of lens sales, the number of pairs of lenses sold was unknown and it was necessary to make a rough estimate.
11. The 1976 components for the Census Agglomerations were not available when processing of the questionnaire returns was started.
12. There is some understatement of the number of optometrists in some of the larger cities because optometrists with offices in department stores or associated with chains of dispensing outlets were included with independent opticians in the market share tables. On the other hand, in large metropolitan areas such as Toronto and Montreal there is a high concentration of optometrists in small outlying communities that were, in an

earlier period, much more separated from the urban agglomerations of which they now form a part. These communities are now counted as part of metropolitan areas.

13. The figure is arrived at by assuming that the wholesale value of frame and lens purchases is divided 30/70, and that frames are marked up 160 per cent and lenses 110 per cent.

CHAPTER VI

1. Transcript, pp. 7484-85.
2. Transcript, p. 7485.
3. Transcript, pp. 7521-22.
4. Transcript, p. 7233.
5. Transcript, p. 7256.
6. Transcript, p. 7257.
7. Transcript, pp. 7253-54.
8. Transcript, p. 3726.
9. Transcript, pp. 7792-93.
10. Transcript, pp. 7307-08.

CHAPTER VII

1. Transcript, pp. 8175-76.
2. Transcript, pp. 8537-38.
3. Transcript, p. 7450.
4. Transcript, pp. 8198-99.

5. Transcript, p. 4127.
6. Transcript, pp. 7815-16.
7. Transcript, p. 7697.

CHAPTER VIII

1. Transcript, p. 3993.
2. Transcript, p. 2065.
3. Transcript, p. 3712.
4. Transcript, p. 2756.
5. Green Book, Tables 24-27.
6. Green Book, pp. 340-41.
7. In the column "Price Watch" by Annabelle King, *Montreal Gazette*, March 11, 1978.
8. *The Citizen*, Ottawa, February 14, 1976.
9. Transcript, p. 2902.
10. Transcript, pp. 2901-02, 2914-15.
11. Transcript, pp. 2678-79.

CHAPTER IX

1. Transcript, pp. 7806-07.
2. Jesse Rosenthal, O.D., and William C. Folsom, Jr., O.D., "Standards of Eyeglasses", *Medical Care*, May-June 1973, Vol. XI, No. 3, pp. 246-47.
3. Canadian Association of Optometrists brief, p. 41.
4. Transcript, p. 2920.

5. Transcript, pp. 2924-25.
6. Transcript, pp. 4882-83.

CHAPTER X

1. Statistics Canada, *Scientific and Professional Equipment Industries*, Catalogue 47-206, for the years 1967-75.
2. Green Book, p. 103, Table XIII and Statistics Canada, *Scientific and Professional Equipment Industries*, Catalogue 47-206.
3. Dr. Harold A. Stein and Dr. Bernard J. Slatt, *The Ophthalmic Assistant*, Saint Louis, The C. V. Mosby Company, 1968, p. 158.
4. Transcript, pp. 2277-78.
5. Transcript, p. 159.
6. The patent is the subject of complicated litigation. The invention was developed in Czechoslovakia and the patent is held in the Western Hemisphere and parts of the Near and Far East by the National Patent Development Corporation. The validity of the patent is being challenged by Bausch & Lomb. Source: pp. 20-22 of Form 10-K Annual Report of Bausch & Lomb Incorporated to the Securities and Exchange Commission, Washington, D.C., for the fiscal year ended December 31, 1975.
7. Transcript, p. 5777.
8. Exhibit A-2 and the update of that document by Mr. H. W. Iwasaki, Assistant Director, Research and Interpretation, External Trade Division, Statistics Canada.
9. Transcript, p. 5767.

10. Transcript, p. 5771.
11. Transcript, pp. 4441-42.

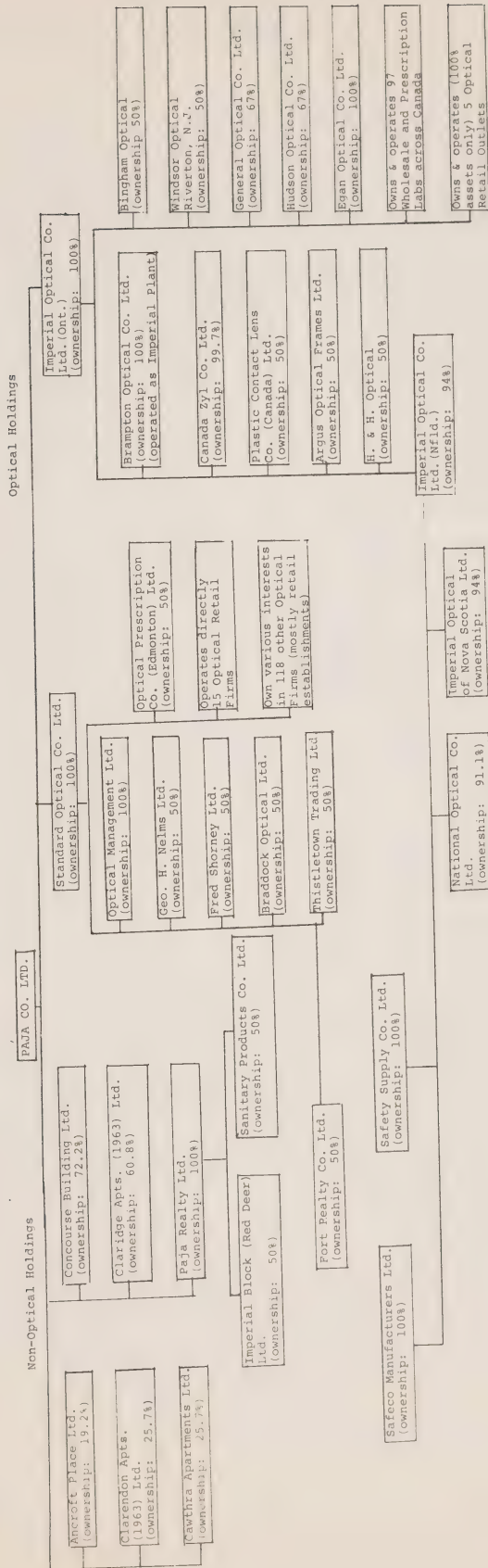
APPENDIX I

DISPENSING OUTLETS OF AOCO LIMITED

<u>BRITISH COLUMBIA</u>			<u>ONTARIO, continued</u>		
Vancouver	Brentwood Optical	1	Oshawa	McManus & Stronach	1
	Scottsdale Optical	1		Sears stores	1
	Sears stores	4			
Victoria	Sears stores	1	Ottawa	Sears stores	3
	Westway Optical	2	Peterborough	Charlotte Street Optical	1
<u>ALBERTA</u>			St. Catharines	McManus & Stronach	1
				Sears stores	1
Calgary	Crescent Optical	1	Sarnia	Sears stores	1
	Sears stores	2			
Edmonton	Alberta Contact Lens	1	Sault Ste Marie	Sears stores	1
	Campus Optical	1			
	Crescent Optical	2	Sudbury	Sears stores	1
	Sears stores	1			
Sherwood Park	Crescent Optical	1	Toronto	McManus & Stronach	6
<u>MANITOBA</u>				Robert Simpson	5
				Sears stores	3
Brandon	Ramsay-Matthews	1		J. C. Williams	2
St. Boniface	Ramsay-Matthews	1	Windsor	Sears stores	1
Winnipeg	Elliot Koblin (Optometrist)	1	<u>QUEBEC</u>		
	Ramsay-Matthews	1	Montreal	Barlow & Barlow	2
	Sears stores	1		Sears stores	2
<u>ONTARIO</u>			Quebec City	Rene Gagnon	1
				Sears stores	1
Barrie	Sears stores	1	<u>NEW BRUNSWICK</u>		
Belleville	AOCO Retail Division	1	Bathurst	Gillies Optical	1
	Belleville Opticians	1	Fredericton	Gillies Optical	2
	Beloptics	1	Moncton	Gillies Optical	1
	The Optical Centre	1	Woodstock	Gillies Optical	1
Guelph	McManus & Stronach	1	<u>NOVA SCOTIA</u>		
Hamilton	Sears stores	2	Halifax	Scotia Optical	1
Kitchener	Sears stores	1	Sydney	Loyalist Optical	1
London	London Optical	1	<u>PRINCE EDWARD ISLAND</u>		
Napanee	Napanee Optical	1	Summerside	Waterfront Optical	1

SOURCE: Information supplied to the Commission by the company.

APPENDIX II
Corporate Affiliations of Paja Co. Ltd.



Source: Returns of Information and Inter-Corporate Ownership: 1972 (CALURA), Statistics Canada.

APPENDIX III

DISPENSING OUTLETS OF IMPERIAL OPTICAL COMPANY LTD. AND AFFILIATES

<u>BRITISH COLUMBIA</u>			<u>ALBERTA</u>		
Campbell River	Hale Optical	1	Calgary	Apex Optical	1
Chilliwack	Chilliwack Optical	1		Calgary Contact Lens Centre	1
	Prescription Optical	1		Calgary Optical	1
Courtney	Hale Optical	1		Hale Optical	5
				London Optical	1
Cranbrook	Hale Optical	1		Optical Prescription	4
				Palliser Contact Lens Centre	1
Duncan	London Optical	1		Trattner Optical	3
	Oculist Prescription	1	Camrose	Hauck Opticians	1
Haney	Dewdney Optical	1	Edmonton	Hale Optical	1
Kamloops	Anderson Optical	1		Optical Prescription	8
	Hale Optical	1		Toric Optical	2
Langford	Oculist Prescription	1		Young Optical	2
				Visual Optical	2
Langley	Prescription Optical	1	Grande Prairie	Grande Prairie Optical	1
Merritt	Merritt Optical	1	Lethbridge	Optical Prescription	1
Nanaimo	Hale Optical	1	Medicine Hat	Arcade Optical	1
	Maycock Optical	1		Cecil Oxenbury Dispensing Opticians	1
Nelson	Nelson Optical	1		Optical Prescription	1
Parksville	Oculist Prescription	1	Peace River	Gateway Optical	1
Penticton	Prescription Optical	1	Red Deer	Hauck Opticians	1
Powell River	Hale Optical	1	Stettler	Hauck Opticians	1
Prince George	London Optical	1			
Vancouver	Hale Optical	7	<u>SASKATCHEWAN</u>		
	House of Spectacles	3	Moose Jaw	Acme Optical	1
	London Optical	5	North Battleford	Optical Prescription	1
	Northmount Optical	1	Prince Albert	Optical Dispensary	2
	North Shore Optical	1	Regina	Benson-Law Opticians	1
	Prescription Optical	10		Capitol Optical	1
Vernon	London Optical	1		Contact Lens Services	1
	Vernon Optical	1		Hale Optical	1
Victoria	Bay Optical Dept., The	1	Saskatoon	Benson-Law Opticians	1
	Hale Optical	1		Midtown Optical	1
	London Optical	1		Optical Prescription	3
	Maycock Optical	1	Yorkton	Yorkton Optical	1
	Oculist Prescription	5			
Williams Lake	Williams Lake Optical	1			

APPENDIX III - Continued

MANITOBA			ONTARIO, continued		
Brandon	Benson-Law Opticians	1	Lindsay	Lindsay Optical	1
Winnipeg	Benson-Law Opticians	2	London	Don Sandercott Dis- pensing Opticians	2
	Contact Lens Services	1		H. Jack Clarke	1
	Eye Service	1		Optical	
	House of Spectacles	2		W. C. McDonald	1
	Mallon Optical	1		Opticians	
	Superior Optical	1		Ralph Cummins Dis- pensing Opticians	3
				Tait Gerrard	1
ONTARIO					
Albion	House of Spectacles	1	Long Branch	Shorney's Opticians	1
Barrie	Shorney's Opticians	2	Malton	House of Spectacles	1
Belleville	House of Spectacles	1	Midland	Midland Optical	1
Bowmanville	Optical Boutique	1	Orillia	Shorney's Opticians	1
Brantford	House of Spectacles	1	Oshawa	Eaton's Optical	1
Brockville	Sutherland & Parkins	2		Optical Boutique	1
			Ottawa	Eaton's Optical	1
Chatham	House of Spectacles	1		Geo. H. Nelms	6
Cobourg	Cobourg Optical	1		Opticians	
				Sutherland & Parkins	3
Cornwall	Cornwall Optical	2		Bert F. Wright	1
	House of Spectacles	2	Owen Sound	Owen Sound Optical	1
Fort Erie	Fort Erie Optical	1		Shorney's Opticians	1
Guelph	Guelph Optical	1	Parry Sound	Parry Sound Optical	1
	Wellington Optical	1	Pembroke	Nelms-Raymond	2
Hamilton	W. E. Davies Dispens- ing Opticians	4		Opticians	
	Eaton's Optical	3	Peterborough	Kawartha Optical	2
	Hamilton Contact Lens	1		Trent Optical	1
	House of Spectacles	4	Port Colborne	Port Colborne Optical	1
	Ted Slaney Dispensing Opticians	1	Port Credit	Braddock Optical	1
Hornby	H. Clerk Mather Dis- pensing Opticians	1	St. Catharines	Cor-Optical	1
Ingersoll	Ingersoll Optical	1		Eaton's Optical	1
				Global Optical	1
Kingston	Artheys Optical	1		House of Spectacles	1
	Clifford Shorney	1		H. G. Sandercott Dis- pensing Opticians	1
	House of Spectacles	1	St. Thomas	Don Sandercott Dis- pensing Opticians	2
	Shorney's Opticians	1			
Kitchener	W. E. Davies Dis- pensing Opticians	2	Sault Ste Marie	Optical Dispensary	1
	Eaton's Optical	1		Superior Optical	1
	Bud Jones Optical	3			

APPENDIX III - Continued

ONTARIO - continued			QUEBEC		
Sudbury	Eaton's Optical	1	Montreal	R.F. Baril Inc.	4
	House of Spectacles	1		Haugen Contact Lens	1
	McKay Optical	1		Laurentian Optical	7
Thunder Bay				Mildon & Morris	5
	Baylook Optical	1	Sherbrooke	Opticians	
	Fort Optical	1		Laurentian Optical	1
	Ham Optical	1		Sirois, Fortier Dis-	1
	Optical Dispensary	2		pensing	
	Prescription Optical	1	St. Hyacinthe	Laurentian Optical	1
Tillsonburg	The Spectacle Shoppe	1			
	House of Spectacles	1	Trois-Rivières	Laurentian Optical	1
Toronto	Braddock Optical	12	Quebec City	Service d'Optique	4
	Brampton Dispensing	1		Elite	
	Opticians		NEW BRUNSWICK		
	John Bolger Optical	2	Fredericton	McAdam Optical	1
	Brook & Braddock Dis-	1			
	pensing Opticians		Moncton	Champlain Optical	1
	Carter Optical	1		Moncton Optical	3
	Charles L. Carter	1	Saint John	Boyles Optical	1
	Optical			House of Spectacles	1
	Cloverdale Optical	1		McAdam Optical	2
	Dufferin Optical	1		Plaza Optical	1
	Eaton's Optical	5			
	Eye Fashion Centre	1	Sussex	Sussex Optical	1
	Gerrard Optical	1			
	Global Optical	1	NOVA SCOTIA		
	F. J. Hornsby	1	Halifax	Atlantic Optical	1
	Opticians			Butler Optical	1
	House of Spectacles	7		Downsview Optical	2
	J. W. MacDonald Dis-	3		Halifax Optical	1
	pensing Opticians			Earle H. King Optical	1
	Markham Optical	1	New Glasgow	Aberdeen Optical	1
	Murray Knox Dispensing	1			
	Opticians		PRINCE EDWARD ISLAND		
	Optical Dispensary	1	Summerside	Summerside Optical	1
	Optical Prescription	1			
	Peoples Optical	3	NEWFOUNDLAND		
	Rowe, The Optician	1	St. John's	Cabot Optical	1
	Scarborough Town	1		Newfoundland Optical	1
	Optical				
	Shorney's Opticians	4			
	Steeles Optical	1			
	Geo. A. Stronach	1			
	Opticians				
	Superior Optical	3			
	Thorncliffe Optical	1			
	G. S. Wood Dispensing	2			
	Opticians				
Windsor	House of Spectacles	2			
	Optical Dispensary	1			
	Plaza Optical	1			
	N. Semple	1			

SOURCE: Information supplied to the Commission by the company.

APPENDIX IV

APPENDICE IV

ANSI Z80.1-1972

American National Standard

requirements for first-quality
prescription ophthalmic lenses

Z80.1-1972



american national standards institute, inc.
1430 broadway, new york, new york 10018

ANSI
Z80.1-1972
Revision of
Z80.1-1964

**American National Standard
Requirements for First-Quality
Prescription Ophthalmic Lenses**

Secretariat
Optical Society of America

Approved November 1, 1971
American National Standards Institute, Inc

The subcommittee on Prescription Ophthalmic Lenses, which developed this standard, had the following members:

Glenn A. Fry, Chairman

Robert C. Graham
Allan Kosh
Gordon Taylor
John Davis
Nicholas Christ
James O'Neil

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American National Standard Requirements for First-Quality Prescription Ophthalmic Lenses

1. Scope

This standard shall apply to first-quality prescription ophthalmic lenses in edged or assembled form, white (colorless) or tinted, single-vision or multifocal, plastic, laminated, impact-resistance-treated or untreated glass lenses. This standard does not cover blended multifocals.

2. Glossary of Terms and Definitions

2.1 Assembled. A prescription lens or lenses which have been inserted in a frame or mounting.

2.2 Center of Rotation Distance. The distance along the optical axis of the lens from the rear surface of the lens to the center of rotation of the eye.

2.3 Edged Lens. A prescription lens cut and edged to a specified shape.

2.4 Impact-Resistant Dress Eyewear Lenses. Glass lenses (of not less than 2 mm optical center thickness, with average thickness between center and the thinnest edge not less than 1.7 mm, and an edge thickness of not less than 1.0 mm at the thinnest point of the edged lens) treated for impact resistance, plastic lenses, or laminated lenses. Further, plastic and impact-resistance-treated glass lenses shall be capable of withstanding an impact test as described in Table 1. In the present state of the art, notched and drilled crown glass lenses and all flint single-vision glass lenses do not conform to this requirement. In the present state of the art, lenses stronger than - 6.00 diopters in the most minus meridian, and minus lenses with cylinders stronger than - 3.00 diopters cannot be heat-treated to the same degree of impact resistance as lenses of weaker minus power, unless they are of 3 mm minimum center thickness.

2.5 Impact-Resistant Occupational Protective Lens. A lens that meets the requirements of American National Standard Practice for Occupational and Educational Eye and Face Protection, Z87.1-1968.

2.6 Index of Refraction. The refractive index for the Sodium D line (589 nanometers).

2.7 Intermediate. That area in a trifocal lens or blank

which has a power between that of the reading and distance portions.

2.8 Major Blank. The basic lens blank to which segments may be added.

2.9 Meridian. The intersection of the surface of a lens with a plane containing the optical axis.

2.10 Multifocal Lens. A lens designed to provide correction for two or more viewing distances.

2.11 One-Piece Lens. A multifocal lens or blank fabricated from a single piece of glass or plastic.

2.12 Ophthalmic Crown. A soda-lime-silicate glass used in manufacturing spectacle lenses.

2.13 Plano Lens. A lens having zero back vertex power.

2.14 Plano Surface. A surface having zero surface power.

2.15 Prescription Lens. A lens made to the prescription formula of a patient.

2.16 Principal Meridians. The meridians of a lens which are respectively parallel to and at right angles to the cylinder axis.

2.17 Reciprocal Relative Dispersion. This is defined by the following formula:

$$\nu = \frac{n_D - 1}{n_F - n_C}$$

where

ν = reciprocal relative dispersion

n_D = index of refraction for radiation of wavelength 589 nanometers

n_F = index of refraction for radiation of wavelength 486 nanometers

n_C = index of refraction of wavelength 655 nanometers

2.18 Segment. A specified area of the lens having a different refractive power from the major portion.

2.19 Semifinished Lens. A lens blank having only one side finished.

2.20 Single-Vision Lens. A lens designed to provide correction for a single viewing distance.

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2.21 Spherical Lens. A lens having the same power in all meridians.

2.22 Sphero-Cylinder Lens. A lens having different powers in the two principal meridians.

2.23 Uncut Lens. A prescription lens not yet cut to shape.

2.24 Vertex Power in Diopters. The reciprocal of the focal length expressed in meters when the focal length is measured from the lens vertex to the focal plane.

The back vertex power is based on the distance between the back vertex and the back focal plane. The front vertex power is based on the distance between the front vertex and the front focal plane.

2.25 Wave. A curved swell or ridge or one of a series of such in a surface.

3. Prescription Requirements

For prescription requirements, see Table 1.

Table 1
Prescription Requirements

Inspection Routine of Prescription Lenses	Tolerance	Provisions and Testing Procedures															
Physical Quality and Appearance Surface Imperfections	No pits, scratches, grayness, or water marks shall be acceptable. Minute hairline scratches should not be a cause of rejection.	Lenses shall be inspected against a dark background in light from an open-shaded 40-watt incandescent clear lamp with the lens 12 inches from the light source.															
Internal Defects	No bubbles, striae, and inclusions shall be acceptable.																
Localized Power Errors	Waves (see provisions).	Waves found by visual inspection shall be passable if no deterioration in image quality is found when the localized area is examined with a standard lens-measuring instrument.*															
Refractive Power (Diopters) Untreated Crown or Flint Glass Lenses	0.00 to 6.00 \pm 0.06 6.25 to 12.00 \pm 1 percent Above 12.00 \pm 0.12	Power in each principal meridian shall be measured on a standard lens-measuring instrument* at the optical center as specified. Maximum cylinder power variation \pm 0.12															
Impact Resistant Lenses	0.00 to 6.00 \pm 0.12 6.25 to 12.00 \pm 2 percent Above 12.00 \pm 0.25 The difference in the refractive power errors of the two lenses of a pair shall not exceed the tolerance as specified above for a single lens; for example: <table> <tr> <th colspan="2">Error</th><th>Difference</th></tr> <tr> <td>O.D.</td><td>O.S.</td><td></td></tr> <tr> <td>+ 0.06</td><td>- 0.06</td><td>0.12</td></tr> <tr> <td>+ 0.12</td><td>+ 0.06</td><td>0.06</td></tr> <tr> <td>- 0.12</td><td>- 0.12</td><td>0.00</td></tr> </table>	Error		Difference	O.D.	O.S.		+ 0.06	- 0.06	0.12	+ 0.12	+ 0.06	0.06	- 0.12	- 0.12	0.00	
Error		Difference															
O.D.	O.S.																
+ 0.06	- 0.06	0.12															
+ 0.12	+ 0.06	0.06															
- 0.12	- 0.12	0.00															
Refractive Power Addition	\pm 0.09D The curves for the reading and distance portions of a one piece bifocal shall meet sharply and both of these curves, immediately adjacent to the line, shall be free from surface irregularities.	Power of additions must be measured in accordance with instructions below.†															

(Table 1 continued on following page)

Table 1 (Continued)
Prescription Requirements

Cylinder Axis Untreated Crown or Flint Glass Lenses	0.12 to 0.37 \pm 3 degrees 0.50 to 1.00 \pm 2 degrees 1.12 on up \pm 1 degree	Axis shall be determined in relation to the cutting or mounting line.
Impact Resistant Lenses	0.12 to 0.37 \pm 5 degrees 0.50 to 1.00 \pm 3 degrees 1.12 on up \pm 2 degrees	
Prism Power and Location of Specified Optical Center	Vertical \pm 0.25 Δ for each lens or 0.25 Δ imbalance. Horizontal \pm 0.25 Δ for each lens or 0.50 Δ imbalance.	The lens shall be measured at the specified reference point, formerly referred to as optical center. A lens specified without prism shall be treated as a 0 Δ lens.
Segment Size	\pm 0.05 mm. Pair must be symmetrical upon visual inspection. Trifocal intermediate vertical dimension shall be \pm 0.25 mm singly or within \pm 0.25 mm paired.	Segment size shall be measured on segment side of lens.
Segment Location	As specified within \pm 0.5 mm	Measured from the apex of the bevel to the highest portion of the segment on the concave side of lens.
Thickness	As specified within \pm 0.2 mm	To provide best cosmetic effect.
Lens Size Rimless Bevel, for plastic frames Bevel, for metal frames	\pm 0.5 mm \pm 0.5 mm To fit standard specified frame	Lens shapes must match. Edges must be straight and smooth and sharp edges must be removed.
Impact Resistant Occupational Protective Lenses	Tolerance for power, size, etc, shall be as above, except minimum thickness edge or center 3.0 mm.	Shall meet the requirements of American National Standard Z87.1-1968.
Impact Resistant Dress Eyewear Lenses	All impact-resistance-treated glass dress eyewear lenses must be of not less than 2 mm optical center thickness, with average thickness between the center and the thinnest edge not less than 1.7 mm and an edge thickness of not less than 1 mm at the thinnest point of the edged lens.	Before they are mounted in frames, all plastic and impact-resistance-treated glass lenses shall be capable of with- standing an impact test of a 5/8 in. steel ball dropped fifty inches. This test is to be conducted at room temperature, with the lens supported by a plastic tube (1 in. ID 1-1/4 in. OD) with a 1/8 in. by 1/8 in. neoprene gasket on the top edge. See the drawing of the lens support in Figs. 4 and 5.
Warpage	The curves in the principal meridians of the mounted lens must be within a tolerance of \pm 1.00 diopter of the design specifications of the lens. The present level of the art dictates that this requirement not apply to plastic lenses mounted in metal frames.	The curves shall be measured with an ophthalmic lens clock.

*Standard lens-measuring instruments means the recognized type, such as a vertometer or lensometer that measures the vertex power.

†A generalized set of instructions for measuring the power of additions is as follows:

- (1) Place the lens in the instrument with the segment surface against the lens positioning tube.
- (2) Measure the power through the reading portion, focusing on the vertical lines of the target image.
- (3) Focusing on the vertical lines of the target image, measure the power through the distance portion. The measurement through the distance portion must be made as far above the optical center of the distance portion as the measurement through the segment is below the optical center of the distance portion.
- (4) The true reading addition is the difference between the distance and reading portions as measured in steps (2) and (3).
- (5) Because of prisms encountered when measuring a strong bifocal through the reading portion, the target may be blurred. To eliminate this, place on the prism holder an auxiliary prism of sufficient power to center the target image.

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4. Design Requirements

Ophthalmic lenses used to fabricate eyewear shall conform not only to the requirements listed above, but shall also meet the following performance requirements which pertain to design.

4.1 Objective. It is assumed that the lens is designed to minimize radial astigmatism and curvature of field for at least a 60-degree vista measured on the eye side of the lens for specified centers of rotation and object distance.

It is understood that there are instances in which special grinding may be needed to achieve some objective other than correction of radial astigmatism and curvature of field, such as control of size and shape differences between the two eyes, distortion, or elimination of ghost images.

4.2 Marginal Powers

4.2.1 Definition. The lens is measured for marginal power in the tangential and sagittal meridians at a marginal point on the vertex sphere in each of the two principal meridians. The vertex sphere is an imaginary spherical surface centered at the center of rotation of the eye and tangent to the rear surface at the optic axis. The distance from the rear surface of the lens to the center of rotation must be specified as a part of the design of the lens. In general, the specified values are expected to fall between 24 and 33 mm. The points A and B chosen for measurements lie on the axis of maximum and minimum meridional power, respectively, and each subtends with the optic axis an angle of 30 degrees at the center of rotation. (See Figs. 1 and 2.)

4.2.2 Tolerances. The tolerances for marginal power shall be as follows:

(1) The marginal meridional powers referred to the vertex sphere at points A and B shall not depart from the measured axial meridional powers by amounts in excess of those values of the tolerances for meridional power shown in Tables 2 through 6.

(2) The cylindrical power, referred to the vertex sphere, at points A and B shall not depart from the measured axial cylindrical power by an amount in excess of those values of the tolerances for cylindrical power shown in Tables 2 through 6.

The tolerances in marginal power contained in the two paragraphs above are only applicable to single-vision lenses and to the distance portion of bifocal lenses. The range for which these tolerances on marginal power apply is from + 7.00 to - 20.00 diopters.

The tolerances shown in Tables 2 through 6 apply to lenses corrected for optimum marginal performance at large object distances. For lenses corrected for opti-

mum marginal performance at near distances, the same tolerances shall apply, except that the measurements will be made with the test object at the specified near object distance, and the tolerances will be referred to the measured effective axial meridional and cylindrical powers.

4.2.3 Measurement. The marginal powers may be measured on any standard lens-measuring instrument that has been appropriately modified to yield the required accuracy referred to the vertex sphere.

One modification of a standard instrument that is satisfactory is to add a hemispherical surface (see Fig. 3) to act as the seating surface against which the lens under test is held. The radius of the surface must be the distance from the surface to the center of rotation. This surface is so arranged that the edge of the standard opening is tangent to the surface of the sphere. A dot is marked on the sphere to locate a point 30 degrees from the axis. The optical center of the lens is pressed against this dot during the test. Suitable prisms are used to bring the image of the target within the field of view of the observing telescope. When the measurements are made in this manner, the observed values are the values referred to the vertex sphere and no corrections are necessary.

The same arrangement can be used for measuring axial powers, except that the optical center is located at the center of the opening in the seating surface.

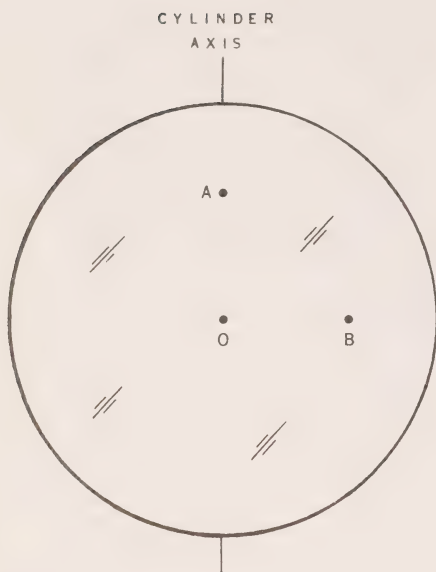
4.3 Specification by Trade Name. Lenses specified by trade name in writing and filling orders for eyewear must adhere to the design specifications of the manufacturer. It is immaterial whether these lenses are procured from the manufacturer as uncut lenses or as semifinished lenses which are subsequently finished by the fabricator in accordance with the design specifications of the manufacturer.

These specifications include center thickness, base curve, index, and in the case of bifocals, the ν value of the glass.

4.4 Type of Glass and Index. Unless otherwise specified, the glass used for single-vision lenses and the major blank of multifocal lenses shall be ophthalmic crown, and the index shall be 1.5230 ± 0.0015 .

4.5 Properties of the Plastic Used in Plastic and Laminated Lenses. The reciprocal relative dispersion, the index of refraction, and also the tolerances must be available to dispensers and optical laboratories and others interested.

Although scratch resistance is a desirable characteristic, the state of the art at this time is such that tolerances cannot be specified and assessed.



Fig

Points of Measurement of Refractive Power

NOTE: O is the optic axis. A and B are the points where marginal power is to be measured. (See 4.2.1.)

4.6 Base Curve. The determination of the base curve of a lens shall be made by measuring the surface power in the base curve meridian. Surface power (F) is related to radius of curvature (r) and index of refraction (n) by the following equation:

$$F = (n - 1)/r$$

where F is positive when the surface is convex and negative when it is concave.

5. Test Procedures

5.1 Method of Measuring Lens Power. This standard refers to the use of a recognized standard lens-measuring instrument such as a vertometer or a lensometer which give a measure of vertex power.

The following rules apply:

(1) Focus the eye piece of the instrument according to the manufacturer's instructions before attempting to

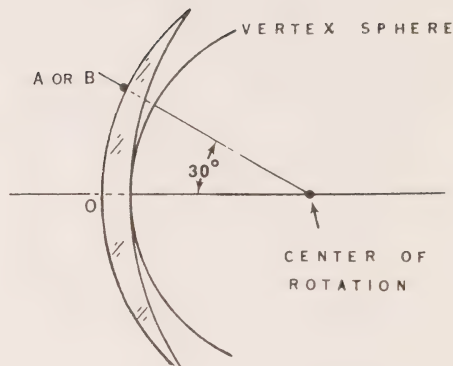


Fig. 2

Angular Displacement of Points A and B

NOTE: Angular displacement of A and B from O measured at the center of rotation. The center of the vertex sphere also falls at the center of rotation.

read any lens power.

(2) In reading the power of any lens, always come into the focus range from the minus side of the focus. That is, turn the top of the calibrated drum counter-clockwise toward the observer. Do not focus back and forth by small amounts on both sides of the best focus as this procedure tends to stimulate accommodation and produce erroneous readings.

(3) In all lens measurements, the lens surface shall be in complete contact with the conical lens stop and not tilted away from the contact at any point.

(4) For valid power readings, the target image shall be centered on the reticle. If necessary, auxiliary prisms shall be used to center the target.

(5) If there is doubt about any reading, the human error shall be minimized by taking an average of five readings. After each reading is recorded on paper, the target shall be thrown out of focus in the same direction and refocused from the minus side of the drum.

(6) The power of a single-vision lens shall be ob-

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Table 2
Tolerances in Meridional and Cylindrical Powers
(Zero Cylindrical Power)

Meridional Powers $V_o \approx H_o$	Tolerances Meridional Power Point A and Point B		Tolerances Cylindrical Power Point A and Point B	
	Point A and Point B	Point A or Point B	Point A and Point B	Point A or Point B
7.00	± 0.38	± 0.32	± 0.38	± 0.32
6.00	± 0.38	± 0.32	± 0.32	± 0.25
5.00	± 0.32	± 0.25	± 0.32	± 0.25
4.00	± 0.32	± 0.25	± 0.25	± 0.18
3.00	± 0.25	± 0.18	± 0.18	± 0.12
2.00	± 0.18	± 0.12	± 0.18	± 0.12
1.00	± 0.18	± 0.12	± 0.18	± 0.12
0.00	± 0.18	± 0.12	± 0.18	± 0.12
-1.00	± 0.18	± 0.12	± 0.18	± 0.12
-2.00	± 0.25	± 0.18	± 0.18	± 0.12
-3.00	± 0.25	± 0.18	± 0.18	± 0.12
-4.00	± 0.32	± 0.25	± 0.25	± 0.18
-5.00	± 0.32	± 0.25	± 0.32	± 0.25
-6.00	± 0.38	± 0.32	± 0.32	± 0.25
-7.00	± 0.38	± 0.32	± 0.32	± 0.25
-8.00	± 0.38	± 0.32	± 0.32	± 0.25
-9.00	± 0.50	± 0.38	± 0.38	± 0.32
-10.00	± 0.50	± 0.38	± 0.38	± 0.32
-14.00	± 0.50	± 0.38	± 0.38	± 0.32
-20.00	± 0.50	± 0.38	± 0.38	± 0.32

NOTE: Tolerances in meridional and cylindrical powers at 30 degrees from the axis for lenses having spherical powers ranging from + 7.00 to - 20.00 diopters and zero cylindrical power. V_o is the measured axial meridional power in one principal meridian and H_o is the measured axial meridional power in the second principal meridian. ($H_o = V_o$ and corresponds to the prescribed spherical power.) All values are given in diopters.

Table 3
Tolerances in Meridional and Cylindrical Powers
(1.00 Diopter Cylindrical Power)

Meridional Powers V_o H_o		Tolerances		Tolerances	
		Meridional Power Point A and Point B	Point A or Point B	Cylindrical Power Point A and Point B	Point A or Point B
8.00	7.00	± 0.62	± 0.50	± 0.50	± 0.38
7.00	6.00	± 0.50	± 0.38	± 0.50	± 0.38
6.00	5.00	± 0.50	± 0.38	± 0.38	± 0.25
5.00	4.00	± 0.38	± 0.25	± 0.32	± 0.25
4.00	3.00	± 0.38	± 0.25	± 0.25	± 0.18
3.00	2.00	± 0.25	± 0.18	± 0.18	± 0.12
2.00	1.00	± 0.18	± 0.12	± 0.18	± 0.12
1.00	0.00	± 0.18	± 0.12	± 0.18	± 0.12
0.00	-1.00	± 0.18	± 0.12	± 0.18	± 0.12
-1.00	-2.00	± 0.25	± 0.18	± 0.18	± 0.12
-2.00	-3.00	± 0.38	± 0.25	± 0.25	± 0.18
-3.00	-4.00	± 0.38	± 0.25	± 0.32	± 0.25
-4.00	-5.00	± 0.50	± 0.38	± 0.38	± 0.25
-5.00	-6.00	± 0.50	± 0.38	± 0.38	± 0.25
-6.00	-7.00	± 0.50	± 0.38	± 0.38	± 0.25
-7.00	-8.00	± 0.50	± 0.38	± 0.38	± 0.25
-8.00	-9.00	± 0.62	± 0.38	± 0.50	± 0.38
-9.00	-10.00	± 0.62	± 0.50	± 0.50	± 0.38
-14.00	-15.00	± 0.62	± 0.50	± 0.50	± 0.38
-19.00	-20.00	± 0.62	± 0.50	± 0.50	± 0.38

NOTE: Tolerances in meridional and cylindrical powers for lenses having spherical powers ranging from + 7.00 to - 20.00 diopters and a cylindrical power of 1.00 diopter. V_o is the measured axial meridional power in one principal meridian and H_o is the measured axial meridional power in the second principal meridian. (For positive cylindrical power, H_o corresponds to the prescribed spherical power; while for negative cylindrical power, V_o corresponds to the prescribed spherical power.) All values are given in diopters.

tained by placing the lens with the ocular (posterior) side toward the light source of the instrument. Bifocal addition power shall be obtained by placing the segment side of the bifocal toward the light source and taking the difference between the distance and reading portion powers.

(7) For spherical lenses, all elements of the target shall be in focus simultaneously.

(8) For sphero-cylinder lenses, one set of target element or elements shall be focused by simultaneous settings of the power and cylinder axis drums, until the element or elements are sharp and continuous. Then, without moving the axis drum, the target element or elements at right angles to the first set shall be focused. The drum reading for each set of element or elements shall be recorded, and the difference between the two readings is the cylinder power in diopters. If the second reading was reached by rotating the top of the drum toward the observer (counterclockwise), the cylinder power is written as plus; if the drum must be

rotated away from the observer (clockwise) to obtain the focus for the second set of element or elements, the cylinder power is written as minus.

5.2 Method of Measuring Surface Power. The surface power shall be measured with a suitable instrument such as a lens measure, lens clock, or Geneva gage. This instrument is a spherometer which measures the vertex depth or sagitta of a lens surface and converts this value to a dioptric equivalent based on an assumed index of refraction. The most commonly used type consists of three pins, two fixed and one movable, mounted in a straight line.

To obtain accurate readings, the three pins must be placed in a plane perpendicular to the surface being measured. If the lens is rocked slightly around this perpendicular position, a small variation in dial reading will be discernible. The minimum value obtained by this method is the surface power of the arc between the outside pins.

Table 4
Tolerances in Meridional and Cylindrical Powers
(2.00 Diopter Cylindrical Power)

Meridional Powers V_o	H_o	Tolerances		Tolerances	
		Meridional Power Point A and Point B	Point A or Point B	Cylindrical Power Point A and Point B	Point A or Point B
9.00	7.00	± 0.62	± 0.50	± 0.62	± 0.50
8.00	6.00	± 0.62	± 0.50	± 0.62	± 0.38
7.00	5.00	± 0.50	± 0.38	± 0.50	± 0.25
6.00	4.00	± 0.38	± 0.25	± 0.38	± 0.25
5.00	3.00	± 0.38	± 0.25	± 0.32	± 0.25
4.00	2.00	± 0.38	± 0.25	± 0.25	± 0.18
3.00	1.00	± 0.38	± 0.25	± 0.25	± 0.18
2.00	0.00	± 0.38	± 0.25	± 0.25	± 0.18
1.00	-1.00	± 0.25	± 0.25	± 0.25	± 0.18
0.00	-2.00	± 0.25	± 0.25	± 0.25	± 0.18
-1.00	-3.00	± 0.38	± 0.25	± 0.32	± 0.25
-2.00	-4.00	± 0.38	± 0.25	± 0.38	± 0.25
-3.00	-5.00	± 0.50	± 0.38	± 0.38	± 0.32
-4.00	-6.00	± 0.62	± 0.50	± 0.50	± 0.38
-5.00	-7.00	± 0.62	± 0.50	± 0.62	± 0.50
-6.00	-8.00	± 0.62	± 0.50	± 0.62	± 0.50
-7.00	-9.00	± 0.62	± 0.50	± 0.62	± 0.50
-8.00	-10.00	± 0.62	± 0.50	± 0.62	± 0.50
-13.00	-15.00	± 0.62	± 0.50	± 0.62	± 0.50
-18.00	-20.00	± 0.62	± 0.50	± 0.62	± 0.50

NOTE: Tolerances in meridional and cylindrical powers for lenses having spherical powers ranging from + 7.00 to - 20.00 diopters and a cylindrical power of 2.00 diopters, V_o is the measured axial meridional power in one principal meridian and H_o is the measured axial meridional power in the second principal meridian. (For positive cylindrical power, H_o corresponds to the prescribed spherical power; while for negative cylindrical power, V_o corresponds to the prescribed spherical power.) All values are given in diopters.

For a spherocylinder lens, the same procedure shall be followed for each of the two curves on the surface. The lens measure and the curve being measured must be perpendicular. The smaller reading indicated the base curve, while the larger reading, obtained at right angles to the base curve, represents the power of the cylinder curve. Due to the effect of thickness, the difference of the two readings is not the full amount of the cylinder power when the toric surface is on the front side of the lens.

Dial gages are sensitive instruments and may lose accuracy with continued use. They should be frequently calibrated against established test curves to ensure accurate readings over the entire range of the instrument.

Careless application of the gage to the lens surface may harm the gage and mar the lens surface. Gentle pressure is all that is needed. Heavy pressure may be enough to distort the surface in thin lenses and give inaccurate readings.

Table 5
Tolerances in Meridional and Cylindrical Powers
(3.00 Diopter Cylindrical Power)

Meridional Powers V_o	H_o	Tolerances		Tolerances	
		Meridional Power Point A and Point B	Point A or Point B	Cylindrical Power Point A and Point B	Point A or Point B
9.00	6.00	± 1.00	± 0.50	± 1.00	± 0.50
8.00	5.00	± 0.87	± 0.38	± 0.87	± 0.38
7.00	4.00	± 0.75	± 0.38	± 0.75	± 0.38
6.00	3.00	± 0.62	± 0.38	± 0.62	± 0.38
5.00	2.00	± 0.50	± 0.38	± 0.50	± 0.25
4.00	1.00	± 0.50	± 0.38	± 0.50	± 0.25
3.00	0.00	± 0.50	± 0.38	± 0.50	± 0.25
2.00	-1.00	± 0.50	± 0.38	± 0.50	± 0.25
1.00	-2.00	± 0.50	± 0.38	± 0.50	± 0.25
0.00	-3.00	± 0.50	± 0.38	± 0.50	± 0.25
-1.00	-4.00	± 0.62	± 0.38	± 0.62	± 0.38
-2.00	-5.00	± 0.75	± 0.38	± 0.75	± 0.38
-3.00	-6.00	± 0.87	± 0.50	± 0.87	± 0.38
-4.00	-7.00	± 1.00	± 0.50	± 1.00	± 0.50
-5.00	-8.00	± 1.00	± 0.50	± 1.00	± 0.50
-6.00	-9.00	± 1.00	± 0.50	± 1.00	± 0.50
-7.00	-10.00	± 1.25	± 0.75	± 1.25	± 0.75

NOTE: Tolerances in meridional and cylindrical powers for lenses having spherical powers ranging from + 6.00 to - 10.00 diopters and a cylindrical power of 3.00 diopters, V_o is the measured axial meridional power in one principal meridian and H_o is the measured axial meridional power in the second principal meridian. (For positive cylindrical power, H_o corresponds to the prescribed spherical power; while for negative cylindrical power, V_o corresponds to the prescribed spherical power.) All values are given in diopters.

5.3 Geometry of Additions. Compliance with all the dimensional tolerances shall be determined by direct measurement of the dimensions under consideration.

Measurements are to be made by scaling. For the more precise requirements, a draftsman-type white celluloid scale with wood backing shall be used. Parallax error due to blank curvature must be avoided by appropriate shifts in eye position corresponding to the parts of the scale being used.

5.4 Measurement of Thickness. Thickness shall be measured at a given specified point of the lens using a standard lens caliper or similar suitable measuring instrument.

5.5 Centering. Centering shall be done on a recognized standard lens-measuring or centering instrument in accordance with instructions furnished by the manufacturer of the instrument.

AMERICAN NATIONAL STANDARD Z80.1-1972

Table 6
Tolerances in Meridional and Cylindrical Powers
(4.00 Diopter Cylindrical Power)

Meridional Powers V_o H_o		Tolerances Meridional Power Point A and Point B		Tolerances Cylindrical Power Point A and Point B	
		Point A or Point B	Point A or Point B	Point A or Point B	Point A or Point B
10.00	6.00	±1.00	±0.50	±1.00	±0.50
9.00	5.00	±0.87	±0.38	±0.87	±0.38
8.00	4.00	±0.75	±0.38	±0.75	±0.38
7.00	3.00	±0.62	±0.38	±0.62	±0.38
6.00	2.00	±0.50	±0.38	±0.50	±0.25
5.00	1.00	±0.50	±0.38	±0.50	±0.25
4.00	0.00	±0.50	±0.38	±0.50	±0.25
3.00	-1.00	±0.56	±0.38	±0.50	±0.25
2.00	-2.00	±0.50	±0.38	±0.50	±0.25
1.00	-3.00	±0.62	±0.38	±0.62	±0.38
0.00	-4.00	±0.75	±0.38	±0.75	±0.38
-1.00	-5.00	±0.87	±0.38	±0.87	±0.38
-2.00	-6.00	±1.00	±0.50	±1.00	±0.50
-3.00	-7.00	±1.00	±0.50	±1.00	±0.50
-4.00	-8.00	±1.00	±0.50	±1.00	±0.50
-5.00	-9.00	±1.00	±0.50	±1.00	±0.50
-6.00	-10.00	±1.25	±0.75	±1.25	±0.75

NOTE: Tolerances in meridional and cylindrical powers for lenses having spherical powers ranging from +6.00 to -10.00 diopters and a cylindrical power of 4.00 diopters. V_o is the measured axial meridional power in one principal meridian and H_o is the measured axial meridional power in the second principal meridian. (For positive cylindrical power, H_o corresponds to the prescribed spherical power; while for negative cylindrical power, V_o corresponds to the prescribed spherical power.) All values are given in diopters.

5.6 Method of Conducting Drop Ball Test. The lens shall be placed on the block of Fig. 4, object side up, ocular side down, approximately geometrically centered on the block. Bifocals and Trifocals may be decentered to be certain that the segment line will not be struck by the ball. However, the ball should impact the lens within a circle 5/8 inch in diameter, whose center is at the geometric center of the lens. During the test, the lens shall not be clamped or restricted in any way. However, a collar around the lens on the block may be used, so long as it does not touch the lens, and an adequate aperture on the upper side provides for free entry of the ball. All glass impact-resistance-treated lenses must be subjected to this test except raised-ledge, one-piece, multifocal glass lenses, which may be sample tested.

6. Revision of American National Standard Referred to in This Document

When the following standard referred to in this document is superseded by a revision approved by the American National Standards Institute, the revision shall apply:

American National Standard Practice for Occupational and Educational Eye and Face Protection, Z87.1-1968

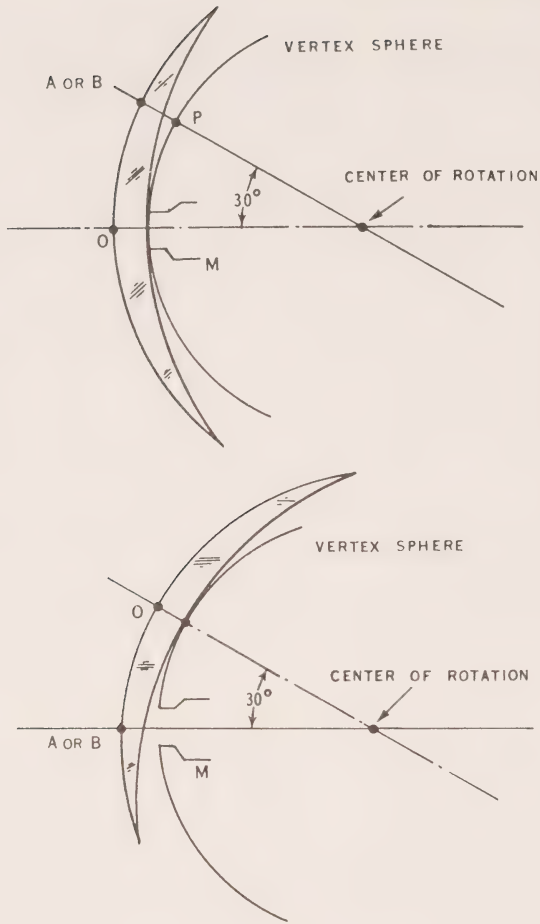


Fig. 3

Lens Testing on the Modified Vertometer

NOTE: Schematic diagram showing the positions assumed by a lens when tested on the modified vertometer. The upper part of the figure shows the arrangement for the measurement of axial power. The fixed reference opening against which the lens is pressed is shown at M. The optical center O is made to coincide with the center of M. The trace of the vertex sphere is also shown. In the lower part of the figure, point O is pressed against the vertex sphere as shown. Light from M passes through the lens under test at points A or B and the marginal power can thus be measured with respect to the vertex sphere.

AMERICAN NATIONAL STANDARD Z80.1-1972

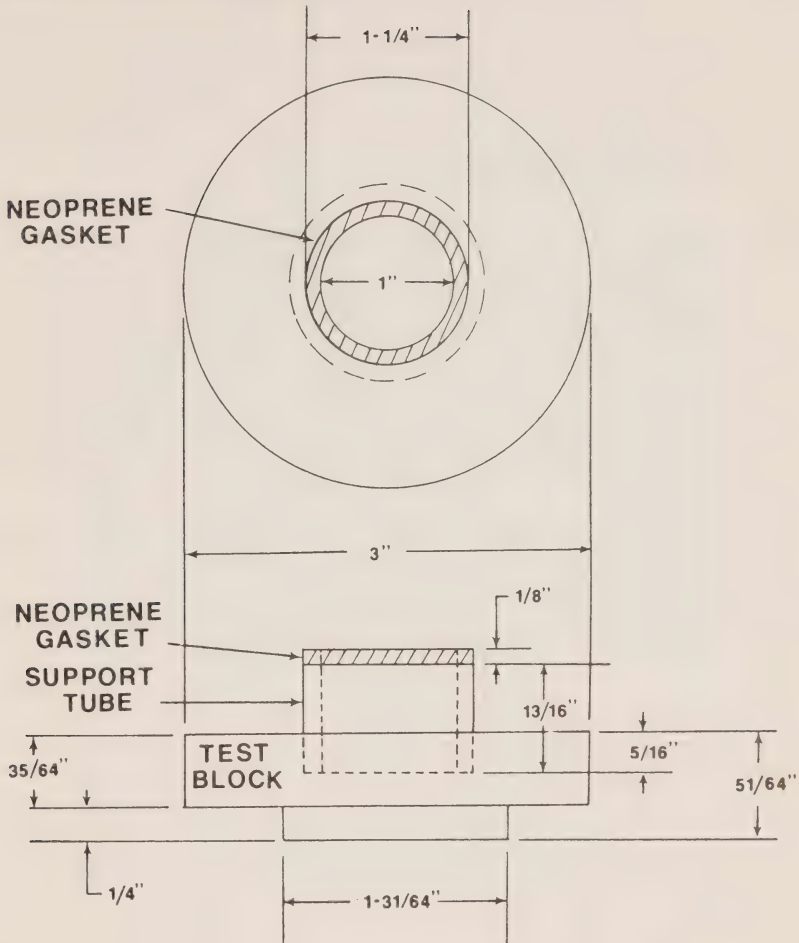


Fig. 4
Lens Test Block

NOTE: This test block is to be inserted in the base plate described in Fig. 6 of American National Standard Z87.1-1968 and reproduced as shown in Fig. 5 of this standard. The neoprene gasket must have a hardness of 40 ± 5 , as determined by Test for Indentation Hardness of Rubber and Plastics by Means of a Durometer, ASTM D 2240-68; a minimum tensile strength of 1000 pounds, as determined by Tension Testing of Vulcanized Rubber, ASTM D 412-68; and a minimum ultimate elongation of 400 percent, as determined by ASTM D 412-68. The support tube made of methyl methacrylate must fit loosely in the recess in the test block but must have an outside diameter of not less than 1-15/64 inches.

The gasket must be securely bonded to the support tube. The test block must be made of cold-rolled steel, American Iron and Steel Institute No. C 1018, or the equivalent.

This test block is applicable to the majority of ophthalmic lenses. However, if any diameter of the edged lens is less than 1-1/4 inches, a substitute support may be used whose outside diameter is equal to or less than the smallest diameter of the edged lens. The wall thickness of the neoprene gasket is always 1/8 inch.

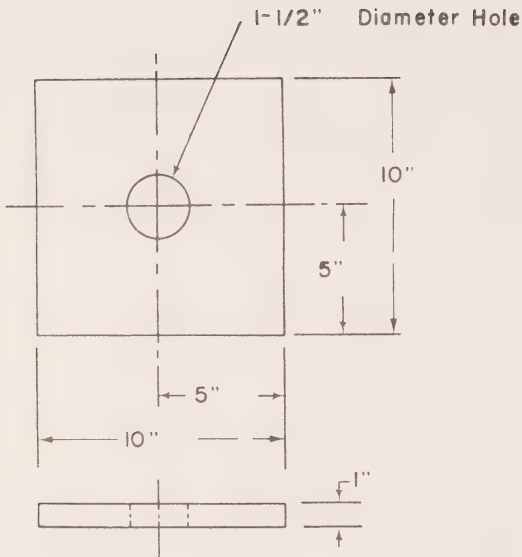


Fig. 5
Base Plate

NOTE: Only one required. The material is cold-rolled steel (ground stock), American Iron and Steel Institute No. C1018, or the equivalent. A base of alternate design may be used, providing it is a rigid iron or steel member, and the total weight of the member and rigidly attached fixtures is not less than 27 pounds.

American National Standards

The standard in this booklet is one of nearly 4,000 standards approved to date by the American National Standards Institute, formerly the USA Standards Institute.

The Standards Institute provides the machinery for creating voluntary standards. It serves to eliminate duplication of standards activities and to weld conflicting standards into single, nationally accepted standards under the designation "American National Standards."

Each standard represents general agreement among maker, seller, and user groups as to the best current practice with regard to some specific problem. Thus the completed standards cut across the whole fabric of production, distribution, and consumption of goods and services. American National Standards, by reason of Institute procedures, reflect a national consensus of manufacturers, consumers, and scientific, technical, and professional organizations, and governmental agencies. The completed standards are used widely by industry and commerce and often by municipal, state, and federal governments.

The Standards Institute, under whose auspices this work is being done, is the United States clearinghouse and coordinating body for standards activity on the national level. It is a federation of trade associations, technical societies, professional groups, and consumer organizations. Some 1,000 companies are affiliated with the Institute as company members.

The American National Standards Institute is the United States member of the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), and the Pan American Standards Commission (COPANT). Through these channels American industry makes its position felt on the international level. American National Standards are on file in the libraries of the national standards bodies of more than 50 countries.

For a free list of all American National Standards, write:

American National Standards Institute, Inc
1430 Broadway New York, N. Y. 10018

APPENDIX V

APPEARANCES

<u>Counsel</u>	<u>Representing</u>
E.F. Ault, Q.C.	) Bausch & Lomb Optical) Company Limited
T.R. Braidwood, Q.C.	) Western Optical Co. Ltd.
J. Brodeur	) Professional Association of) Optometrists of Quebec
J.W. Brown, Q.C.	) AOCO Limited
J.B. Mackenzie)
G.W. Calver	) King Optical Company
P. Isbister, Q.C.)
I.E. Epstein	) Bradbury Family) and) Fort Realty Ltd.
A. Joli-Coeur	) National Optical Co. Ltd.) Service d'Optique Elite Ltée) Imperial Optical Company Ltd.) Standard Optical Company Limited
S. Lafontaine	) Professions Board of Quebec
R. Lesage, Q.C.	) Order of Optometrists of) Quebec
A.G. Richmond, Q.C.	) G.S. Wonnacott
J.J. Robinette, Q.C.	) Imperial Optical Company Ltd.
T.G. Heintzman	) and
R.J. McComb	) Standard Optical Company Limited

Counsel

Representing

M. Sainte-Marie

) Robert Laforce

A. Schwartz

) P.L. Sudderdean
) & Associates

B.F. Squair

) Manitoba Department of the
) Attorney General

C.R. Thomson

) Board of Ophthalmic
) Dispensers of Ontario

J.-G. Villeneuve

) Order of Prescription
) Opticians of Quebec

The Director of Investigation and Research was represented by:

B.C. McDonald

J.-P. Bourbeau

APPENDIX VI

HEARINGS AND WITNESSES

Ottawa - November 5 and 6, 1975

Mr. K. Rubin	Freelance Researcher and Community Organizer, Ottawa.
Mr. P.T. Patton	Dominion Customs Appraiser, Department of National Revenue, Customs and Excise, Ottawa.
Mr. W. Iwasaki	Assistant Director, External Trade Division, Statistics Canada, Ottawa.
Dr. R.W. Campbell	Chief, Division of Medicine, Bureau of Medical Devices, Department of National Health and Welfare, Ottawa.
Mr. G.G. Capello	Director, Food, Drugs and Textile Products Centre, Department of Supply and Services, Hull.

Victoria - November 26 and 27, 1975

Mr. S. Olson	President, British Columbia Optometric Association, Vancouver.
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Victoria - November 26 and 27, 1975 (cont'd)

Dr. G.R.F. Elliot	Deputy Minister, Community Health Programs, Ministry of Health, Government of British Columbia, Vancouver.
Mr. J.W.G. Langley	Victoria.
Mr. I.F. Hollenberg	President, Western Optical Co. Ltd., Vancouver.
Mr. J.J. Abramson	Vice-President and Secretary, Western Optical Co. Ltd., Vancouver.

Montreal - January 13, 14 and 15, 1976

Mr. M. Cossette	President, Order of Dispensing Opticians of Quebec, Montreal.
Mr. J.K. McKeating	President, Gormac Contact Lens Laboratories Inc., Montreal.
Mr. J. Selway	Chief, Purchasing Division, Department of Supply and Services, Montreal.
Mr. Y. Papineau	Director, School of Optometry, University of Montreal, Montreal.
Mr. C. Lalonde	President, Professional Association of Optometrists of Quebec, Montreal.

Quebec - January 16, 1976

Mr. P.A. Gagnon	Section Chief, Quebec District, Department of Supply and Services, Quebec.
Mr. R. Laforce	Dispensing Optician, Quebec.

Halifax - January 20 and 21, 1976

Mr. W.G. O'Brien	Chief Purchasing Agent, Department of Supply and Services, Halifax.
Mr. M. McKiernan	Lab Manager, Acadia Optical, Dartmouth.
Dr. J.J. Stanton	Acting Deputy Minister, Department of Health and Member of the Board of Dispensing Opticians, Halifax.
Mr. E.G. Muise	Dispensing Optician, Independent Optical Supply Company Limited, Halifax.

Fredericton - January 22, 1976

Mr. J. Horncastle	Health Services Claims Division, Department of Health, Fredericton.
Mr. G.K. Grassl	Former Executive Vice-President and General Manager of Optyl (Canada) Ltd., Oromocto.

Toronto - January 26, 27 and 28, 1976

Mr. J.W.H. McLean	Dispensing Optician, McLean Optical Ltd., and Vice-President of the Board of Ophthalmic Dispensers, Ontario, and Education Chairman for the Province of Ontario, Hamilton.
Mr. C.H. Zinkel	President and General Manager, Dynavision Limited, Toronto.
Mr. G. Adamson	General Manager, King Optical Company, and Education Director of the Ontario Association of Dispensing Opticians, Toronto.

Winnipeg - January 29 and 30, 1976

Mr. A. Klymchuk	Research Analyst, Research and Planning Division, Department of Consumer, Corporate and Internal Services, Winnipeg.
Mr. A. Allentuck	Consultant to the Minister of Consumer, Corporate and Internal Services, Winnipeg.
Dr. R. Small	President, Manitoba Optometric Society, Winnipeg.

Winnipeg - January 29 and 30, 1976 (cont'd)

Mr. B. Hosegood	Oakley Optical Limited, Winnipeg.
Dr. B. Rosner	Vice-President, Manitoba Optometric Society, Winnipeg.
Dr. D.H. Green	Chairman, Ophthalmological Section, Manitoba Medical Association, Winnipeg.
Mr. J. Linney	Manager, Stewart N. King Ltd., and President, Ophthalmic Dispensers Association of Manitoba, Winnipeg.
Dr. P. Warner	Assistant Regional Director, Medical Services Branch, Department of National Health and Welfare, Winnipeg.
Mr. F. Toll	Manager, Management Information Section, Manitoba Health Services Commission, Winnipeg.
Mr. S. Kavanagh	Information Officer, Management Information Section, Manitoba Health Services Commission, Winnipeg.

Winnipeg - January 29 and 30, 1976 (cont'd)

Mrs. I. Bowman	Eye Service Supervisor, Canadian National Institute for the Blind, Winnipeg.
Mr. F. Fileccia	Executive Director, Operational Support Services, Department of Health and Social Development, Winnipeg.

Regina - February 10 and 11, 1976

Dr. D. Penman	Chairman, Saskatchewan Medical Care Insurance Commission, Regina.
Mr. C. McCullough	Research Officer, Department of Health, Regina.
Mr. J.E. Casson	Assistant to the President, Imperial Optical Company Ltd., Toronto.
Mr. L. Zoakipny	Director, Optical Department, Saskatoon Community Clinic, Community Health Services (Saskatoon) Association Ltd., Saskatoon.
Dr. J. Huber	Secretary-Treasurer, Saskatchewan Optometric Association, Swift Current.

Regina - February 10 and 11, 1976 (Cont'd)

Dr. D.J. Holmes	Past President, Saskatchewan Optometric Association, Swift Current.
Mr. W. Lough	President, Saskatchewan Guild of Ophthalmic Dispensers, Prince Albert.

Edmonton - February 12 and 13, 1976

Mr. M. Sprackman	Advertising Agent, Kert Advertising, Vancouver.
Mr. L. Gendron	Ophthalmic Dispenser, Alberta Vision Centre, Medicine Hat.
Mr. I. Gliener	Owner, Baker Centre Optical and Guardian Optical, Edmonton.
Dr. S.D. Brisbin	President, Alberta Optometric Association, Edmonton.
Mr. G. Starr	Owner and Manager, Independent Optical Ltd., Edmonton.

Montreal - February 18, 19 and 20, 1976

Mr. Y. Papineau	Director, School of Optometry, University of Montreal, Montreal.
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Montreal - February 18, 19 and 20, 1976 (Cont'd)

Mr. A. Gauthier	President, Professional Association of Optometrists of Quebec, Montreal.
Mr. M. Cossette	President, Order of Dispensing Opticians of Quebec, Montreal.
Mr. M. Denault	President, Order of Optometrists of Quebec, Montreal.
Mr. C. Gareau	Secretary, Order of Optometrists of Quebec, Montreal.
Mr. P. Meloche	President, Professional Association of Dispensing Opticians of Quebec, Montreal.
Mr. F. Bourbonnais	President, Optilite Inc. and President, Association des Fabricants de Lentilles Ophtalmiques, Montreal.
Mr. C. Ryser	President, Metropolitan Optical Ltd. and Secretary, Association des Fabricants de Lentilles Ophtalmiques, Montreal.
Mr. C. LePage	Vice-President and General Director, Essel Optique Canada Ltée, Montreal.

Vancouver - February 25 and 26, 1976

Dr. R. Evans	Associate Professor of Economics, University of British Columbia and Economic Advisor, Western Optical Co. Ltd., Vancouver.
Mr. I.F. Hollenberg	President, Western Optical Co. Ltd., Vancouver.
Mr. J.J. Abramson	Vice-President and Secretary, Western Optical Co. Ltd., Vancouver.
Mr. D. Pavan	President and General Manager, Prescription Optical (New Westminster) Limited, former President of the Canadian Guild and former President of the B.C. Association of Dispensing Opticians, New Westminster.
Mr. T. Bradbury	President, Fort Realty Ltd., Vancouver.
Mr. B. Bradbury	Managing Director, Fort Realty Ltd. and Member of the Association of Dispensing Opticians, Victoria.

St. John's - March 3 and 4, 1976

Mrs. M. Kearney	Consumers Affairs Consultant, Department of Provincial Affairs and Environment, St. John's.
Mr. G. Tapper	Retired, formerly employed by Imperial Optical in Newfoundland, St. John's.
Dr. J.A. Snow	Vice-President, The Newfoundland Optometric Association, Corner Brook.
Mr. J.E. Casson	Assistant to the President, Imperial Optical Company Ltd., Toronto.
Dr. R. MacDuff	Optometrist, Gander.
Dr. A. Richardson	Optometrist, St. John's.
Mr. S. Neary, M.H.A.	Independent Liberal, Lapoile Electoral District, St. John's.
Mr. P.L. Sudderdean	President, P.L. Sudderdean & Associates Ltd., Grand Falls.
Mr. T.C. Sellars	Deputy Minister, Department of Health, St. John's.

St. John's - March 3 and 4, 1976 (cont'd)

Mr. H. Noftle	Employee, Department of Health, St. John's.
Mr. B. Wynne	Modern Optical, St. John's.
Mr. J. Power	President, Newfoundland Guild of Dispensing Opticians, St. John's.

Toronto - March 16, 17, 18 and 19, 1976

Mr. A. Tytel	General Manager, Monarch Optical Manufacturers Limited, Toronto.
Mr. W.D. Omand	Chartered Accountant, Ontario Paper Company Limited, St. Catharines.
Dr. G.C. Lecker	President, Canadian Association of Optometrists, Ottawa.
Mr. D. Schaefer	Executive Director, Canadian Association of Optometrists, Ottawa.
Dr. M.E. Woodruff	Director, School of Optometry, formerly Associate Professor and Director of Clinics, University of Waterloo, Waterloo.

Toronto - March 16, 17, 18 and 19, 1976 (cont'd)

Dr. R.R. Hansford	Chairman, Discipline Committee, College of Optometrists of Ontario, formerly President of the Ontario Association of Optometrists, Etobicoke.
Dr. I. Baker	Registrar, College of Optometrists of Ontario, formerly President of the Ontario Association of Optometrists, Toronto.

Quebec - March 24, 25 and 26, 1976

Mr. R. Laforce	Dispensing Optician, Quebec.
Mr. J. DeSerres	Optometrist, formerly President of the Association of Optometrists for the Quebec Region, Quebec.
Mr. R. Valentine	Dispensing Optician, Maritime Optical Co. Limited, Member of the Corporation of Dispensing Opticians, Quebec.

Toronto - April 6, 7, 8, 9, 12, 13 and 14, 1976

Dr. M.E. Woodruff	Director, School of Optometry, University of Waterloo, formerly Associate Professor and Director of Clinics, University of Waterloo, Waterloo.
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Toronto - April 6, 7, 8, 9, 12, 13 and 14, 1976 (Cont'd)

Dr. I. Baker	Registrar, College of Optometrists of Ontario, formerly President of the Ontario Association of Optometrists, Toronto.
Dr. R.R. Hansford	Chairman, Discipline Committee, College of Optometrists of Ontario, formerly President of the Ontario Association of Optometrists, Etobicoke.
Mr. R. DePinto	President, Centennial Optical Limited, Toronto.
Mr. H.A. File	President, Dominion Contact Lens Labora- tories Limited, Toronto.
Dr. G.S. Wonnacott	Optometrist, Belleville.
Mr. A. Tytel	General Manager, Monarch Optical Manufacturers Limited, Toronto.
Mr. M. Brearly	Manager, AOCO Limited, Richmond Hill.
Mr. S. Cohen	President, Plastic Plus, Toronto.

Toronto - April 6, 7, 8, 9, 12, 13 and 14, 1976 (cont'd)

Mr. R. Barton	Licensed Dispenser, Crown Opticians, Toronto.
Mr. E.V. Brook	President, Canadian Guild of Dispensing Opticians, Scarborough.
Mr. M. Lategan	Secretary, Canadian Guild of Dispensing Opticians, Scarborough.
Mr. R. Winter	Director, Canadian Guild of Dispensing Opticians, Past Secretary-Treasurer, Canadian Guild of Dispensing Opticians, Toronto.
Mr. F.J. Sanger	President, Sanger Contact Lens Centre, Toronto.
Mr. M. Derouin	Derouin Opticians Ltd., Ottawa.
Mr. R.R. Searle	President, Ontario Association of Dispensing Opticians, Toronto.
Mr. G. Adamson	Education Director, Ontario Association of Dispensing Opticians, and General Manager, King Optical Company, Toronto.

Toronto - April 6, 7, 8, 9, 12, 13 and 14, 1976 (cont'd)

Mr. J. Kearns	Steeles Optical, Willowdale.
Mr. W. Oliver	Manager, Design Department, Imperial Optical Company Ltd., Toronto.
Mr. F. Dalby	Registrar, Board of Ophthalmic Dispensers of Ontario, and Executive, Staff of Imperial Optical Company Ltd., Toronto.
Mr. H. Downer	General Manager, National Optical Co. Ltd., Montreal.
Mr. J.E. Casson	Assistant to the President, Imperial Optical Company Ltd., Toronto.
Mr. E. Bracht	Imperial Optical Company Ltd., Toronto.

Montreal - April 21, 22 and 23, 1976

Mr. R. Custeau	General Director, Optique Richelieu Ltée, St-Hyacinthe.
Mr. V. Cohen	President, Vilico Optical Inc., Montreal.

Montreal - April 21, 22 and 23, 1976 (cont'd)

Mr. F. Bourbonnais	President, Optilite Inc., and President, Association des Fabricants de lentilles ophtalmiques, Montreal.
Mr. G. Rivard	Dispensing Optician, Beloeil.
Mr. L. Paré	Technician, Association of Technicians- Opticians of Quebec. Montreal.
Dr. J. Perras	Optometrist, Montreal.
Mr. C. LePage	Vice-President and General Director, Essel Optique Canada Ltée, Montreal.

Toronto - May 10, 11, 12, 13, 14, 18 and 19, 1976

Mr. J.E. Casson	Assistant to the President, Imperial Optical Company Ltd., Toronto.
Mr. L.D. Curran	President and Managing Director, Bausch & Lomb Optical Company Limited, Don Mills.
Mr. G. Adamson	President, Ontario Association of Dispensing Opticians, and General Manager, King Optical Company, Toronto.

Toronto - May 10, 11, 12, 13, 14, 18 and 19, 1976 (cont'd)

Mr. R.R. Searle	Immediate Past President, Ontario Association of Dispensing Opticians, Toronto.
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Toronto - June 21, 22 and 23, 1976

Mr. F. Kahn	General Manager, Kahn Optical Company Ltd., Toronto.
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Mr. S. Hermant	President, Imperial Optical Company Ltd., Toronto.
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Mrs. P. Nolan	Owner, Patruco Services Limited, Sudbury.
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Mr. J.E. Casson	Assistant to the President, Imperial Optical Company Ltd., Toronto.
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Mr. C. Bergmann	President and General Manager, AOCO Limited, Belleville.
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Ottawa - December 14, 1976

Mr. M. Cossette	President, Order of Dispensing Opticians of Quebec, Montreal.
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Mr. F. Bourbonnais	President, Optilite Inc. and President, Association des Fabricants de Lentilles Opthalmiques, Montreal.
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